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EDITORIAL—SOME HIGHLIGHTS

I. General Economic Scene

ate :

erspective Plan : During November ur sectoral perspective plans for Large nd Medium and Small Industries, Fuel and ower, Minerals, and Transportation were presented by their respective Task Forces to the chairman of the State Planning Commission and a manpower plan, rural water supply, rural roads and Panchayat development plans concerned, by the sub-roups dealing with them.

The perspective plan for the develop-ent of large and medium industries pro-oses an outlay of Rs. 2,225 crores during e 12 year period 1972-1984. The State ector plan includes expansion and produc-ion of agro based industries and processing d mineral based industries using the ate's minerals. The mechanical indus-ies will further develop around the Salem el plant and a speedy growth of electro-ic industries is envisaged. The large salt sources of the State will be used for pansion of industries producing caustic soda, soda ash and other items. A large oast based fertilizer unit is proposed in the xth Plan. A potassium chlorate plant at elur with a capacity of 1,825 tonnes per nnum at a cost of Rs. 1 crore, a Rs. 3 rore sodium hydro sulphate unit with an nual production of 3,500 tonnes at araikudi, further expansion of the cement its which call for continuance of freight oling during the Fifth Plan and the ablishment of 12 additional sugar facto- with a capacity of 1,500 to 2,000 tonnes ly with development of a sugar complex at Thanjavur are also proposed. For the State owned and operated industries a provision of Rs. 98.50 crores is made in the perspective plan period. The central sector has been allotted Rs. 785 crores for the Salem Steel Plant (Rs. 360 crores), Heavy Water Plant at Tuticorin (Rs. 15 crores), Trichy Boilers and other central units (Rs. 410 crores). The development of industrial plots for large industries on a self financing basis is another feature of the Plan. Joint sector units including hand-looms will call for an investment of Rs. 1,291.50 crores. The cooperative sector will be developed with an allocation of Rs. 30 crores. An important innovation pro-posed is the development of scientific and industrial research in the State as recom-mended by the Task Force on Education, Science and Technology with an allotment of Rs. 50 crores. The industrial research projects developed by that Task Force have been taken over in this perspective plan.

The perspective plan for small industries proposes an outlay of Rs. 707.5 crores for the 12 year period. It is planned to increase the number of small industries from 25,000 to 50,000 by the end of the Fifth Plan and to 75,000 by the end of the Sixth Plan, involving an increase in their aggregate investment by Rs. 650 crores and providing employment to 8 lakh persons. The indus-trialisation of backward areas in the State by adding one per cent subsidy to the interest paid to the lending institutions plus the concessions of the Union Govern-ment and IDBI, the reorientation of the

system of licensing and distribution of scarce raw materials particularly ferrous and non-ferrous metals and the creation of "an imported raw materials bank" are proposed. In this connection SIDCO should become the only agency to handle and distribute to small units the entire range of scarce items, including small value import licenses, and for this purpose should enter into agreements with the canalising agencies — STC, MMTC, and HSL. The production programme for electronic industries will be approved by the State and not the Union agencies. Industrial estates will be further developed through increasing infrastructural facilities particularly in backward areas staffed by competent persons, and to help weaker sections of artisans, workshops will be constructed in industrial rural locations, relaxing as appropriate the regulations under Factories, Public Health, Panchayats, Municipalities and ESI Acts. Industrial estates will also accommodate power looms. A time limit of 30 days for processing small industries application and rationalising the procedures for licensing small scale units are proposed. A Central Standardisation and Research cell for testing samples and inspection will promote the development of ancillaries and the RBI is requested to extend credit guarantee to ancillaries. Rs. 10 lakhs will be the common ceiling on machinery investment for both small and ancillary units. Silk worm rearing in North and South Arcot, Tirunelveli, Salem, Madurai and Coimbatore and development of sericulture to provide employment to hill tribes and a crash programme in Dharmapuri are envisaged. Other promotional schemes include cent per cent assistance to technicians and unemployed engineers and effective price preference concessions in government purchases to small units. This whole programme will involve Rs. 80 crores investment by the State, Rs. 11 crores by the Union Government, Rs. 94.5 crores by the cooperative sector, Rs. 500 crores by the organis[ed] private sector and banks and Rs. 22 cro[res] by the unorganised sector.

The Fuel and Power perspective calls for an outlay of Rs. 1,500 cr[ores], Rs. 831 crores in the State sector and R[s.] 680 crores in the Central sector on pow[er] schemes. This proposal is based on [the] per capita consumption of power increasi[ng] from 133 units in 1971-72 to 450 units by 1983-84, the demand increasing from 1,720 MW in 1973-74 to 3,360 MW in 1978-79 and 5,938 MW in 1983-84, and th[e] energy requirements increasing from 8,600 million units in 1973-74 to 15,490 million units in 1978-79 and to 27,920 million units in 1983-84. The power projects fall into 3 groups, hydel, thermal and nuclear. Out of the estimated hydro electric resources of about 3,494 MW in the State, the more economical ones totalling 1,224 MW have already been harnessed. The balance of 2,270 MW is made up of small sources and inter State projects. For the Fifth Plan, [9] schemes with a total capacity of 655 MW are proposed: Kadambarai second stage (200 MW) Pykara ultimate stage (100 MW), Melcodmund and Lone Valley Diversion (100 MW), Coonoor-Kollar (100 MW), Kaniar pumped storage (100 MW), Valar pumped storage (100 MW), Paralayar (35 MW), Cholathipuzha (30 MW), Shanmughadhi (30 MW), Upper Amaravathy (30 MW). For the Sixth Plan 6 projects with a total capacity of 950 MW are proposed: upper Cauvery-Hoggenekal (250 MW), Kundah ultimate stage (205 MW), lower Cauvery (200 MW), upper Thambaraparani (165 MW), upper Manimuthur (90MW) and Kukkalathoraihalla (40 MW). On thermal power a station (400 MW) at Tuticorin, one at Mettur (330 MW), a second mine cut at Neyveli both to use the full 600 MW capacity of the existing power plant and a second lignite based thermal station (800-1,000 MW) are proposed. On nuclear power, in addition to the two units (235

MW) which will come into operation at Kalpakkam in 1975-76 and the subsequent year respectively. from which the Tamil Nadu grid will get 300 MW, two more 235 MW at Kalpakkam, and a second nuclear project at Tuticorin are proposed. Nuclear power in Tamil Nadu is estimated to cost 8.5 paise per unit, whereas thermal power costs in the State 9-10 paise per unit. The three conclusions of this programme are: first when all these projects are executed, the State will face a power deficit of 1,450 million units at the end of the perspective plan period which will have to be met through import of power from Kerala and Mysore. The need for approaching power generation as an inter State programme clearly emerges from this analysis. Secondly, the State must be involved directly in the Neyveli power operations as the State's development is tied up with the power plant there. For this purpose the fertiliser and loco units at Neyveli could be separated and the latter managed by the Union authority. The power programme should be jointly controlled by the State and Union authorities. Third to increase the State Electricity Board's efficiency, and reduce our heavy transmission losses, a network of 230 KV lines and the setting of 3 regional distribution corporations which will handle all distribution problems are proposed. On fuel, petroleum and its products are seen to be in deficit from 1977. A second refinery at Tuticorin and a fuel cell in the Planning Commission to keep track of our fuel supply and demand are proposed. The perspectives on fuel have not been thoroughly examined and need further work and study.

The perspective plan for transportation proposes an outlay of Rs. 933 crores for the development of roads, railways, major ports and airways for the years 1972–1984. For roads the construction programme will increase the length of roads per 100 sq.km. from 55.1 to 61 km. The investment of Rs. 143 crores on rural roads will cover the formation of 8,303 km. of new roads, upgrading 13,912 km. of existing roads and improving 5,915 km. of roads. Two lane and wide roads will increase by 870 km. and single line roads by 105 km. The first road recommended for completion is the 768 km. Madras to Kanyakumari East Coast road. Also a ring road connecting the 3 national highways outside Madras city is proposed both to serve as a by pass to the city and the industrial complexes developing around and outside the city. A road parallel to Anna Salai on the western side of the city is also recommended. The total cost of the proposed road programme is Rs. 493.61 crores for the period, providing employment to 50 lakh workers. The plan also envisages the construction of multi storeyed car parks in urban areas. To improve metropolitan transport a Rs. 100 crores tube railway on the North-South Eastern corridor and a Rs. 63 crores circular loop railway connecting the broad and metre gauges in Madras with a terminal at Anna Nagar are proposed. A phased programme for converting the metre gauge into broad gauge, starting with a new broad guage line from Karur to Madurai and then converting the Madurai – Virudhunagar–Maniyachi–Tuticorin – Tirunelveli line, to be followed by an additional broad guage from Madras to Villupuram and conversion of the Villupuram–Dindigal into a broad gauge are proposed. The next phase will be the conversion of Villupuram–Mayuram–Thanjavur - Tiruchirapalli section into broad gauge and ending with the similar conversion of Virudhunagar-Tenkasi, and Tirunelveli–Shencottah lines. The Madras-Arkonam line whould be electrified. The total cost of this railway programme is Rs. 142 crores employing 2.65 lakh workers. A Rs. 37.50 crores Sethusamudram project and the construction of 4 additional berths at Madras port to double

its cargo handling capacity and the development of Cuddalore port at a cost of Rs. 20 crores are recommended. One project which is not a high priority is a helicopter service between Madras and Mahabalipuram, Kanchipuram and Vedanthangal. The perspective plan also includes the development of new airports at Salem, Tuticorin, Cape Comorin, and Thanjavur. The Plan needs careful scrutiny by the Commission to fit into the policy frame of the perspective plan and to adjust to it available resources.

The perspective plan for minerals development calls for an outlay of Rs. 7.57 crores during the 12 year period, 1972—1984. The plan provides for a comprehensive scientific survey of the mineral potentialities of the State, continuing and extending the work undertaken by UNDP and the Geological survey of India, development of suitable methods for the efficient exploitation of the minerals, establishment of mineral based industries which will use the minerals mined as inputs and the setting up of an adequate administrative machinery for this programme. The mineral based industries to be set up include a vitreous glazed mosaic tile industry, two crockery plants, a high tension and a low tension insulator units, a graphite crucible plant, small units for manufacturing precipitated calcium carbonate, modern mechanised kilns producing industrial lime and a plant for preparing magnesium metal. The administrative measures for this programme includes upgrading the geology branch under the industries department into a Directorate, setting up a Mineral Development Corporation and legislation to prevent illicit mining operations. In the Fifth Plan special attention is to be given to training specialised staff and procuring special equipment for this programme so that in the Sixth Plan, the State can move forward with greater self-reliance. The public sector will be responsible for strategic minerals and minerals which require heavy capital investment and/or a large gestation period. The iron ores of Kavuthimalai and Vediappan Malai will be reserved for State exploitation and the high grade limestone formations around Ariyalur used for the Salem Steel plant. After study of the Vaipur and Kaliar deposits, a plant for the production of ilmenite, rutile and garnet will be set up in the Sixth Plan as also the development of the granite polishing industry, the separation plant for beach sands and the concentration plant for utilising the Kavuthimalai iron ores. The exploration schemes in the Plan period will cost Rs. 2.4 crores and the exploitation projects Rs. 1.3 crores. The need for a Mineral Development Corporation needs careful examination by the Commission.

The manpower plan set forth by the sub group of the Task Force on Human Resources forecasts that on the basis of the perspective plan proposals for the organised sector 2 million jobs will be created during the period against 3 million who will be entering the labour force, of whom 2,00,000 must be employed outside agriculture. The plan proposes that small scale industries be adequately expanded in order to absorb these 2 lakh workers. The current inter sectoral labour force distribution in the State is such that there is a declining trend in employment in agriculture, with increases in manufacturing, construction, electricity, gas and water. The plan forecasts that in agriculture and mining there will be no increase in employment, whilein manufacturing a 5 per cent increase in employment is predicted. The plan further recommends development of occupational profiles and the establishment of a manpower research cell in the State Planning Commission.

Within the frame of the perspective plan for water supply and sanitation of the Task Force on Health, Family Planning, Nutri-

tion and Sanitation, reported in Vol. II No. 9 of the Bulletin, the Rural Development sub group on rural water supply has proposed a Rs. 57.2 crores rural water supply programme for the 12 year period. Half the sum proposed is to be the State outlay as general purpose grant and the other half as a disadvantaged area grant. The programme is based on the analysis of the existing facilities, the financial inputs required, the priorities and standards to be adopted and the imperatives of ecological balance. On this basis it recommends that each Panchayat Union be told what resources will be available to it during each Plan period so that it can draft a coordinated phased plan for the area based on its priorities and the local resources available. This is one of the cardinal elements in District Planning and it is the District Plan which are now being finalised which should be decisive in executing the Perspective Plan. A State cell for water supply schemes consisting of hydrologists from the ground water cell, water supply and drainage board and highway engineers is proposed to determine the easy and disadvantaged areas, survey and decide on the areas and the allocation required. This suggestion should be examined by the Commission and made compatible with the Centre for Water Resources Planning and development recommended by the Task Force on health, family planning, nutrition and Sanitation. The cell could be one technical group of the Centre. The sub group endorses the Task Force recommendation that each village with a population of 500 should have the minimum facility of a draw well or deep bore well with hand pump, while villages with a population of 500 to 2,000 should have mechanical arrangements to lift and supply water at some central point. The financial recommendations to the sub-group that financing to the Panchayat Union should be 75 per cent loans and 25 per cent grant, are at variance with that of Task Force (100 per cent loan with 50 per cent repayment over a period of 20-25 years) and should be resolved by the Commission. The programme of integrated water supply to harijans as part of the community supply is well developed in the Plan.

The Rural Development Task Force's sub group on rural roads has proposed a Rs. 24 crore perspective plan for the development of rural roads. It endorses the chief engineers scheme for connecting villages with a population of 1,500 and above with black tapped roads in two phases with an outlay of Rs. 14 crores during 1973-83 and Rs. 10 crores during the next phase (see Vol. II No. 9 of the Bulletin). It is proposed that this programme should be undertaken by the panchayat unions with the help of the highways department (rather than the other way about as at present), as that will link this programme with the village works grants activities, ensure local participation and involvement of panchayat unions in the planning and execution of such works and make full use of local labour and relieve unemployment. This is part of the district planning methodology which is now a feature of the perspective plan formulation.

The Rural Development Task Force's sub group on local government has proposed that existing 12,642 panchayats covering 2.5 crores people be merged into compact units to ensure effective supervision and control over budget, increase their revenue and tax collection and make them more viable generally. Maintaining the existing blocks around which development work is centred, panchayats should be regrouped into compact units of 30. Each development district should have a District Development officer who will replace the existing Revenue Divisional officer. The collection of the profession tax at the source and a panchayat secretary

for every panchayat are proposed. Each panchayat will have a minimum resource base and incentives for *tax collections will* be offered. The house tax should be one per cent of the capital value of the house of 20 per cent of the actual rental value subject to a minimum of one rupee. The block grants system is to be rationalised and made uniform. The functioning of local government during the perspective plan period is a key element in the entire strategy and these proposals are a minimum reform needed.

Fifth Plan and 1973-74 Plan: The State's Fifth Plan is taking shape under the tentative financial decisions of Rs. 3,100 crores overall, of which Rs. 1,467.43 is the State sector. The sectoral break-up of the State outlay at the first stage of plan formulation is agriculture 16 per cent, co-operation and community development 0.4 per cent, irrigation and power 34.8 per cent, industry and mining 6.6 per cent, transport and communication 3 per cent, social and other services 39 per cent. This sectoral distribution will have to be re-examined and readjusted in light of (a) the real financial availabilities, (b) the objectives of growth, employment generation and the selective attack against poverty and (c) the district plans which are being finalised in December—five months after the original deadlines that had been established. The State Government has also requested the Union Government to provide for an outlay of Rs. 275 crores for the last two years of the State's Fourth Plan—Rs. 125 crores for 1972-73 and Rs. 150 crores 1973-74. The allocation for the first three years of the current Plan has been Rs. 292 crores. If this request in the last two years is approved, the Fourth Plan outlay will be Rs. 570 crores against the proposed outlay of Rs. 623 crores in the Draft Fourth Five Year Plan document of the State. The State has requested the Union Planning Commission to redeem its promise of Rs. 250 crores to the State out of the pool of Central assistance of Rs. 3,500 crores. To date this original agreement has been reduced to Rs. 202 crores for the Plan period. There are many complexities in Centre-State financial relations as Vol. I Nos. 7, 9, 10 and Vol. II Nos. 3, 4, 5, 6, 7 and 10 have repeatedly emphasised. The State had pledged itself to raise Rs. 85 crores additionally during the current Plan. Actually it will have raised nearly double that—at Rs. 154 crores. Already by 1972-73 it has raised nearly 15 per cent of the total additional resources mobilised by all the States. The State should not be in the position of having to make repeatedly a case for financial resources for projects which have been the subject of review and scrutiny and which have been more than fully executed by it. It is hoped that in the Fifth Plan there will be more automaticity introduced in Centre-State financial relations.

Power Crisis: The power crisis in the Country and the State referred to in the last issue of the Bulletin will deepen in the first part of the year. The current shortage of 1 million kw will become 2 million kw by March. In fact the economy must now be adjusted to face a continuing shortfall well into the Fifth Plan The four sets of causes for this depressing situation were analysed in the last issue. For the immediate future one note of warning needs to be sounded—too much reliance is being placed in the State and Country on nuclear power generation. The frequent shut-downs of the Tarapur Atomic Power Station, the continuing postponement of commercial operation of the Rajasthan Atomic Power Plant and the lengthening time lags in Kalpakkam becoming operational are warnings that the technology in this field is not yet fully established and our uranium resources might also become a bottleneck. Further there is too much

concentration on future impressive sounding targets—to raise generation capacity from 20 million kw at the end of the Fourth Plan to 41.8 million kw by the end of the Fifth Plan, the building of a national power grid, the development of 500 MW and 1,000 MW generators—all of which are necessary but along with immediate attention to using existing capacity, reducing unnecessary transmission losses, and producing 110 MW generators for which we have the technology and capacity now.

The power crisis in Tamil Nadu is likely to deepen. The hydel storage in November 1972 was 475 million units against 1,730 million units in November 1971. The 25 per cent power cut in force from October 1 will continue till the start of the South West monsoon in June 1973. Attention should now be focussed on avoiding a further cut of anything up to 50 per cent as in the Punjab. The State's proud record of rural electrification is caught up in this power shortage. To date 52,524 villages and hamlets have been electrified, 5,94,612 pumpsets energised and 18,872 harijan colonies provided with electricity. As pointed out in the last issue of the Bulletin, large and medium industries production has been slowed down at a time when the demand and their capacity have expanded. Madras Aluminium, Mettur Chemicals, Madras Fertilisers, the cement units in the State and private sectors in addition to textiles have had to cut back their production. Equally serious has been the effect on the small industries who had just received a continuing flow of orders from the core industries, as the latter were getting back into their stride after a period of strikes and lockouts. The immediate action to relieve even in small ways the deepening power crisis in the State is now emerging. The State's daily consumption of hydro power amounts to 3,043 million units and on this little can be done before the South West monsoon. In this regard, the Ennore thermal plant which began operating in November to capacity, due to the heavy rains providing the cooling water and the pumps installed for pumping sea water, and the construction of a cooling tower for the third 110 MW should help. Our daily power purchased from Neyveli has been 1,523 million units. Due to fall in lignite production the 600 MW plant has been generating only 150 MW, feeding only 90 MW into the State grid in September and October. In November the flooding of the mines by the rains resulted in generation of 100 MW, with 40 MW being fed into the Tamil Nadu grid. This is really an impossible situation and is the case for the State being closely associated with the operation of the plant. There are two ways in which there can be immediate relief from the Neyveli power plant vis a vis the State's power shortage. The first is to act immediately on the recommendation of the expert committee referred to in the last issue to convert two 50 MW sets to oil firing. This will involue foreign exchange expenditures but is inescapable. The Irrigation and Power Ministry has accepted this recommendation and this should double the present generation at Neyveli. The other recommendation is to stop for the present the manufactures of briquettes by the carbonisation and briquetting plant and divert the part of the 72,000 tonnes of lignite used in it to thermal generation. This is actually happening because there is not enough lignite mined for the place. But a decision is still a long way off. We are now involved in the bureaucratic mesh of the Irrigation and Power Ministry communicating this recommendation to the Steel Ministry which is responsible for Neyveli and which is examining this recommendation from several angles. Meanwhile the power and production situation worsens in the State. The remaining parts of the State's daily consumption were purchased from Mysore

(728 million units) and Kerala (338 million units). Mysore faces the same crisis, with the Sharavathi project's reservoir—Linganamakki—having fallen owing to gaps in the flow and has itself imposed a 25 per cent power cut. With Sabari being filled from October-November rains, Kerala is in a position to sell 3 million units a day to Tamil Nadu. Despite their own shortages, the 4 Southern States are meeting the 4 lakh unit power shortage of the two Union Territories of Pondicherry and Goa. The total capacity of Southern regional grid is now 4 million KW and with the projects for Tamil Nadu outlined earlier under the perspective plan section, the Mysore Kaliand, the ninth and tenth units Sharavathi projects, Kerala's Idikki and Shilloru and Andhra's Kothagudem and Beltamalla projects, the southern grid capacity will be more than 8 million KW, wiping out the current 11 million KW energy deficit in the region. Short term measures including installation of diesel generating sets by large and medium firms, Rs 8 lakhs, of 34 KVA to 200 KVA sets had been ordered by November. For small industries special arrangements include allocating the power quota combining the lighting, industrial and welding load demands, interchanging the domestic and factory load quota for a unit manager, using any 3 months in the year from 1 June, 1971 for calculating the base if the June-August 1972 period was a strike period or a closure period in the large related firm and a possibility of exempting the firms consuming less than 500 LT units from the cell. The results of these arrangements will be known in terms of production and development in the coming months.

Water: The State's surface water resources to the extent of 94 per cent is being used over one tenth of its total cultivated area. The need therefore for scientific exploration and ordered use of the ground water resources for agricultural, industrial and domestic purposes is urgent. There are 1.1 million wells in the State currently tapping ground water for varying purposes. There is the problem of the water level declining noticeably annually in certain areas due to overdraft. The other problem is that 73 per cent of the State is underlain by crystalline rocks. Under these conditions the setting up of the Water Resources Council under the Union Government and a parallel body in the State have become an urgency. Following the Srinagar conference (see Vol. II No 8 of the Bulletin), the Union Government is taking action to amend the constitution to declare water as a national asset and to introduce federal water legislation distributing responsibilities between the Union and States for the most effective distribution of water resources for the benefit of the Country. The National Water Resources Council headed by the Prime Minister will evolve a national water policy. Similar action should be taken at the State level for a State Water Resources Council functioning under the National Council. There is the need for a State water policy to ensure the conjunctive use of surface and ground water for all purposes notably agriculture and to deal with the special problems of underground water. Here this State has made a start with the wells subsidy programme operated by the State Land Development Bank (Rs. 249.8 crores upto June 1972) and the Agricultural Refinance Corporation (Rs. 113 crores in 1970-71), including the Rs. 10 lakh failed wells fund to compensate the farmer on the risk he runs from dry wells. This programme should be brought under the direction of the State Council. The other important development is the ground water Directorate of the Public Works Department which also should be brought under the direction of the Council. The Directorate is engaged in two tasks. The first is the quick ground water surveys on the basis of existing data to clear the

urgent minor irrigation schemes at hand. This is necessary as a hydrological survey takes him (3 years) and current projects cannot be held back. But the continued use of such empirical methods will lead both to long term damage to our water resources and to infructuous expenditure. Hence the second function of the Directorate is to undertake systematic hydrological surveys and collect the necessary data for the scientific examination of our ground water potential—as has been done for Thanjavur with the help of UNDP. This must now be extended for the entire State and the Rs. 868 lakhs 5 year plan (1972–77) for this purpose must be executed continuously. But the work of the Directorate is larger and involves a deal of inter departmental work beyond identifying areas rich in water to studies on utilisation and crop patterns. For this highly technical work the main bottleneck now and in the future is trained staff and staff trained in inter disciplinary areas and methods. The Council must also bring under its purview the fast developing water supply programme under the Tamil Nadu Water Supply and Drainage Board. The Task Force recommendations on the Rs. 40 crores programme for supply of drinking water to the 4,551 villages which had no water and for supplementing the supply to 12,858 villages and 2,059 villages susceptiable to cholera and the Rs. 47 crores scheme to provide water (and drainage) to 600 town panchayats and villages are now under execution. The LIC is a major source of loan finance in this programme under the principle that the premiums collected from the State net of its expenses are invested in water, housing and other State schemes to the tune of Rs. 16 crores per annum at present. This programme needs not only the technical supervision of the Council, it also needs rigs of different types—hard work, rotary, percussion and combination. UNICEF is aiding this effort with 100 rigs out of the 973 which are needed for the Country. In enlarging the use of rigs to the full amount needed by the State and Country, the ground water directorate must be involved in clearing the schemes.

Agricultural Income Tax Ordinance: Due to the adjournment and prorogation of the legislature, the Tamil Nadu Agricultural Income Tax (Amendment) Ordinance was issued in November in order that agricultural income tax collection from April 1973 might proceed smoothly. Vol. II No. 10 and Nos. 8 and 9 of the Bulletin summarised the amendment introduced in the August session, against the background of the farmers agitation and subsequent accord. Under the ordinance, the current Act is amended with a view to providing a series of concessions, not all of which are in line with the recommendations of the (Raj) Committee on the taxation of agricultural wealth and income, which is reviewed under the National section. The amendment, however, is in line with the accord forced on the government. Under it, the exemption limits from the tax are raised from 7½ standard acres to 10 standard acres and from Rs. 4,000 to Rs. 5,000 income. It provides for some concessions in conversion to standard acres for certain crops—arecanut, grapes, sugarcane, banana, groundnut (irrigated), cotton (irrigated) and coconut. Agricultural income from trusts will be exempted from total agricultural income to the extent of the exemption under the Income Tax Act. Composition of tax is permitted without limit in respect of non-plantation crops and the composition limit raised from 30 to 50 standard acres for plantation crops. The composition of the tax will be under a revised rate which increases progressively from Rs. 15 per standard acre for 10 acres holdings to Rs. 120 for those above 70 acres. The exemp-

tion concessions and extension of composition weaken the intent to tax agricultural incomes, while the revised rates are a move in the right direction.

Other executive decisions: A second ordinance—the Tamil Nadu Betting tax (Second Amendment) ordinance was also announced levying a surcharge on totalizator tax and regularising the levy from January 1972. The Government has also formulated the details of the scheme to use foreign scholars, which was presented in the budget (see Vol. II No. 4 of the Bulletin). The details of the scheme include: thirty scholars from the State working abroad will be invited to work for short periods in the scientific and technological departments and institutions at a monthly salary of Rs. 700 to Rs. 1,200. The remuneration is really an honorarium as the main appeal is for the scholars to help the State in its development effort. 20 foreign scientists are to be invited to work in the State in similar departments and institutes with the Government meeting travel, board and lodging charges. Some of the scientists in the CSIR science pool will be similarly used. A committee of department secretaries, chaired by the Chief Minister, is to administer the scheme. At a time when the country's international aid relations are declining, this State programme, if wisely administered, could both counter its brain drain and meet its need for highly skilled and trained personnel.

National

Growth: The growth of the economy is one base for all its other goals. The analysis of growth in the last two issues of the Bulletin using data from the Reserve Bank (Vol. II No. 11) and NCAER (Vol. II No. 12) showed a disturbing declining growth trend. The latest World Bank Atlas reviewing our performance in the sixties places us at near bottom (102nd) in a listing of 122 countries, with an average growth of 1.2 per cent and a per capita income (computed by its special yard sticks) of Rs. 825. For the Fourth Plan, all evidence at hand is that this low performance of the sixties is likely to be continued. The first year of the Plan 1969-70 registered a 5.3 per cent growth, the second year, 1970-71 a 4.7 (or 4.5) per cent growth and for the third year 1971-72 the Reserve Bank estimates less than 4 per cent and the Economic Times puts it at 3.5 per cent. All trends in agriculture and industry to date indicate that it may be lower this year. In fact, even if industry picks up to 7-8 per cent as the first quarter performance indicates (given the shortages in power and raw materials this cannot be maintained), as agriculture contributes 50 per cent to our GNP and industry only around 30 per cent, the shortfall in agriculture if above 3 per cent can result in a zero growth rate of the economy. The growth record to date is summarised below, using the 3.5 per cent rather than the 4 per cent rate for 1971-72.

National Income			*(at 1960-61 prices)* *Per Capita Income*	
Year	*Rs. Crores*	*% annual change*	*Rupees*	*% annual change*
1960-61	13294	—	306.3	—
1961-62	13763	3.5	310.0	1.2
1962-63	14045	2.0	309.4	-0.2
1963-64	14845	5.7	319.9	3.4
1964-65	15917	7.2	335.8	5.0
1965-66	15021	-5.6	310.4	-7.6
1966-67	15243	1.5	307.9	-0.8
1967-68	16660	9.3	329.2	6.9
1968-69	17057	2.4	329.9	0.2
1969-70	17955	5.3	339.4	2.9
1970-71	18755	4.7	347.0	2.2
1971-72	19411	3.5	350.8	1.1

The reasons for our poor performance this year have been analysed in the last two issues of the Bulletin and there is little to be added to it. We can break out of this low performance trend as the World Bank suggests pointing to our sound, large and complex industrial structure, our doubling of national income since the First Plan in 1951, the increase in life expectancy from 32 to 53 years, the increase in our literacy rate from 15 to 30 per cent and the school population from 19 to 70 millions, the expansion of railway freight tonnage from 93 to 205 millions a year, cargoes from 19 million to 55 million tonnes and surfaced roads which doubled to 3,00,000 km. On this basis it is possible even yet to frame policies and programmes, which we are doing now for the last year of the Fourth Plan, to get nearer our growth target of 5.5 per cent. For this hard economic and structural decisions are called for. In the sixties more than 60 per cent of the GNP growth went to maintains the increased population at the previous low levels and we have added 200 million to our labour force in the late sixties and are now adding 4 millions per annum. The anti-poverty programme is a long term and urgent effort and it requires growth of the economy now.

***Prices and credit*:** This effort requires that we face honestly and squarely the unpleasant facts in order that corrective action may be taken. Prices have not gone down as recently claimed in the Lok Sabha. The general price level as measured by the wholesale price index (base 1961-62—100) rose by 6.5 per cent during the first nine months of 1972, compared to the 3.9 per cent rise in the nine months of 1971. As at October 21, the index stands at 210.9 as against 209 reported in the last issue (Vol. II No. 12). The group 'food articles' advanced by 9.4 per cent in 1972 compared to 1.6 per cent rise in 1971. In particular vanaspathi, sugar, vegetables and cereals have registered price rises. Sugar prices have risen by 20 paise per kg. and vanaspathi prices by 10 paise per kg. It is true that prices of food articles recorded a fall of 0.6 per cent in September, rice prices having fallen by 1.2 per cent but even at that date they were 4.9 and 14.3 per cent higher than a year ago. In this connection it should be noted that the price rise as an indicator of further tightening of the belt refers only to the 40 per cent living above the poverty line, who have the money to buy the goods. For the sixty per cent below the line, their illfare is not measured by the price rise because they do not enter the market. Under these conditions, the programme to expand immediately production and instal a distribution network analysed in the last two issues needs only to be recalled. The FCI, the cooperatives, the fair price shops (which should be increased sizably) and the State Corporations should translate the programmes and assurances into action in stocking themselves with cereals, oils, sugar, pulses and cloth so that there is a free and unimpeded flow of the goods from the producers to the consumers in the rural and poor urban sector. Action to restrain prices on the monetary and credit side could be quickly effected. The Reserve Bank has as of November 17 increased the liquidity requirements of the banks from 29 to 30 per cent of aggregate liabilities, and the net liquidity ratio for borrowing from the Reserve Bank from 34 to 36 per cent. These measures are preventive in the sense that they take account of the existing situation of the liquidity ratio of 40.5 per cent, a net liquidity ratio of 39 per cent and the credit-deposit ratio of 66.2 per cent of the commercial banks. The same is true of the changes in the selective credit controls announced at the same time by the Reserve Bank for bank advances against food grains, oil seeds, oil, vanaspathi, cotton and kapas, sugar, gur and khandasari for the coming mon-

soon. These selective credit controls have been sharpened by relating the quantum of credit to the borrower and not by bank as hitherto, while maintaining the margin requirements. Negatively these controls will discourage financing of speculative commodities holdings including bullion. But the more positive decisions by the RBI is the reminder that there are priority sectors and refinance facilities related to them. The banks have been asked to relieve the price inflation by financing production expansion, particularly the crash rabi programme and the industrial sector which shows signs of picking up. Refinance facilities are to be continued for (1) short term lending to agriculture (2) short term lending to small scale industries (3) primary cooperative credit societies (4) export credit. This is reiteration of current policy. The absence of any further incentives and measures to put it into effect and push idle funds in the sectors of economy—priority and non-priority—where the demand for funds is being met by usual resort to the money lender is related to the announcement of the third tranche of the Union Government loans of Rs. 100 crores, resulting in mopping up Rs. 110 crores from the banks. The surplus funds with the banks are so embarrassingly large that there need be no either—or in regard to their use. The Union Government's two loans were easily subscribed by the banks and LIC—the 5 per cent loan maturing in 1984 and 5¼ per cent loan in 1988. (Incidentally this makes for a record gross government borrowing this year of Rs. 760 crores and a net borrowing of Rs. 460 crores against the budget estimate of Rs. 215 crores). But there are still large resources with the banks which are not being invested in production and in the priority sectors. In the 12 months upto November 1972, deposits increased by Rs. 1,112 crores and advances by only Rs. 313 crores and so their investments in government securities, bills, etc. rose by a little less than double the production advances at Rs. 550 crores, which stood at an all time high of Rs. 4,600 crores. This is inflationary in its effect as deficit financing. What is needed is for the government, RBI and the banks to channel these large resources for the expansion of production and for investment in major projects in the private and public sectors. The government's financial needs are also large, due to the loans to the State Governments for the agricultural (rabi) crash production programmes (Rs. 150 crores), additional short term loans for the purchase of fertilisers (Rs. 40 crores), and relief assistance to flood and drought affected areas (Rs. 60 crores). These together with some capital expenditure for IAL, ICC, CCM, etc. account for the supplementary demand of Rs. 309.77 crores passed by the November/December session of the Lok Sabha. It is likely that the next session will have to appropriate a further supplementary demand to meet a further increase in expenditure which may amount to Rs. 500 crores. This could be met partly from further public borrowing, increased tax receipts if production expands, and a reduction in non-plan expenditures. The government effort to reduce the non-plan expenditures of Rs. 600 crores by 5 per cent and defence expenditures by 2 per cent are moves in the right direction. In any case, at least there should be no further increase in direct deficit financing over the Rs. 385 crores budgetted. Every effort should be made to reduce this total.

Fifth Plan Approach: The Rs. 51,000 crores outlay for the Fifth Plan reported in the last issue of the Bulletin and now under study and discussion at various levels in the Country and States face two major problems. The first is financial as indicated in the last issue. The proposed outlay of Rs. 51,000 crores is at 1971-72

prices. In a sense it is misleading to speak of this being double the Fourth Plan outlay, because at 1968-69 prices it is really a 50 per cent increase. Further with the price inflation just referred to, this figure will have to be revised to the level of 1972-73 prices at least. Within this financial frame there are a number of minor issues. The outlay is for the first time expressed in gross terms—that is Rs. 3,500 crores if for replacement of depreciated equipment and machinery. It is a step forward that the Fifth Plan approach is not continuing with the exploded doctrine of classifying the replacement of depreciated assets as non-plan. No other country does this. This change in accounting procedure should be taken into account in examining the proposed financial outlay. There is also the question of the amount of deficit financing assumed in the paper which speculation places at Rs. 2,000 crores. And the basis of the pattern and source of financing the public and private sectors, as well as the real foreign exchange gap also need to be brought out in the open. And finally the Union Ministries and the States are now rather fully involved in debating and clamouring for a greater share of the cake. At the Union level there is a case for increasing the allocations for power and health as pointed out in the last issue, at the State level the question of plan performance and real resource mobilisation have become live issues. In a sense all these financial issues—important as they are—should have been brought out and debated at the second stage, at the stage of issuing in March of the Fifth Plan outline. The Fifth Plan approach paper itself should have concentrated rather heavily on the major policy issues—a list of which was given by the chairman of the Commission, Mrs. Gandhi as comprising "agricultural policy, wage policy, policy regarding resource mobilisation and for attaining balanced regional growth". Once the policy issues are debated and settled and the policy frame settled, the financial consequences will follow because (a) the political commitment will show the target and (b) the translation of the target into resources outlay and resources mobilisation becomes a technical and arithmetical exercise. The major policy issue is of course how much growth, how much social justice and even within the social justice frontal attack against poverty, the choice between alternatives indicated in the approach paper. Should the policy be to raise the monthly income of the lowest 30 per cent of the poverty sector from Rs. 23.24 to Rs. 26.80 with the consequent rise in the monthly income of the top 30 per cent from Rs. 90.68 to Rs. 104.57 or should it be to increase the former's income from Rs. 23.24 to Rs. 37.10 and decrease the latter's income from Rs. 90.68 to Rs. 87.93 ? What of the minimum needs programme policy ? What are Union Government's and State's roles in its formation ? What is to be the industrial policy ? Is it to be optimum utilisation of existing industrial capacity rather than setting up new industries, and is it to include a licensing policy which will diffuse centres of decision making, as the Ministry of Industrial Development states it is working for or is it to be a bit of both? And what is the policy basis for the change in public/private sector outlays from 40 : 60 now, to 34.4 to 65.6 in the Approach Paper ? And what is the policy regarding the joint sector ? Wages, incomes and industrial relations policy are another area crying aloud for clarification. Specific policies are also in need of debate. It is computed that even if all current projects are approved (and there are 13 projects awaiting approval—3 in the public and 10 in the private sector investing a total output of 1.29 million tonnes), our fertiliser production will increase from the current 2.79 million tonnes to a maximum of 7.50 million tonnes by the end of the Fifth Plan when the agricultural demand for ferti-

lisers will be for 10.50 million tonnes of nitrogenous and phosphate fertilisers. The whole agricultural policy depends on this vital input on which policy is needed. And so on. It is therefore, essential that the debate in the Country should veer round from financial planning and the financial magnitudes to the basic policies on which the Fifth Plan can be built.

Agricultural Holdings Tax (AHT): The committee on taxation of Agricultural Wealth and Income (the Raj Committee) presented its report in November (see Vol. II No. 5). It recommends the imposition of the Agricultural Holdings Tax (AHT) on operational holdings, a partial integration of non-agricultural income with income derived from agriculture to determine the rate of tax applicable to the latter and a tax on agricultural property and a tax on capital gains arising from transactions in such property. The first and major recommendation is the AHT on rateable values of operational holdings of a family which is the unit of taxation. The family definition is that given by the Committee for the taxation of agriculture, namely, husband, wife and minor children. The AHT which will supersede land revenue and all cesses and surcharges related to it will be based on operational holdings consisting of aggregate holdings of all members of a family of each assessee minus any land leased out plus any land leased in and levied on the rateable value of the holding computed on a fairly uniform basis for the Country and the State, through a system of devising soil-climatically homogeneous tracts, for each of which norms of output and value for different crops per hectare are worked out annually, allowing for costs of cultivation, depreciation of assets (20 per cent of rateable value upto Rs. 1,000), development allowance and crop failures. The first phase of AHT will be on all operational holdings with a rateable value of Rs. 5,000 or more. In the second phase it will be extended to operational holdings in a progressively decreasing manner upto rateable values of Rs. 600 and a flat rate 1 Rupee for holdings below that value. Cooperatives where lands belong to individual members will come under AHT. The assessment year will be 1 July to June 30 and to ensure uniform and fair application of the tax an All India Committee on Agricultural Holdings is to be constituted. Second the Committee recommends that the 1961 Income Tax Act be amended to provide for the agricultural and non-agricultural incomes of a tax payer's income be aggregated and tax on the non agricultural portion levied in the top slabs of the aggregated income. The income from this aggregation should be turned over to the States. Third the Committee recommends a tax on agricultural property and capital gains on a family basis, establishing a basic exemption of Rs. 1.5 lakhs and abolishing all other exemptions. On this basis it recommends lowering of current rates. Similarly capital gains from transfers of all agricultural lands whatever their location or period of ownership should be taxed. All religious and charitable trusts and shares in companies and cooperatives should be included as taxable wealth.

The recommendations for taxation of agricultural incomes and wealth have long been overdue and should be put into effect. First it provides at a conservative estimate a total of Rs. 300-350 crores of additional resources which are needed for the development effort. A recent study of State finances by the Reserve Bank shows that the States face a gap of Rs. 168 crores in the Fourth Plan and that unless the agricultural sector is subjected by them to larger direct taxation, this gap will not be covered. Currently the State measures and enterprises are estimated to yield Rs. 930 crores against the pledge to raise

Rs. 1,098 crores. This gap will grow with faster development and the resources indicated by the Raj Committee are the means of meeting this situation. Second it brings about some rough equity in the tax burden and contribution from the agricultural as well as the non-agricultural community. Third being a direct tax it ensures that the relatively well to do sections of the rural community pay a higher share than the others, unlike the land revenue and its various cesses which have been regressive in their effect on the small farmer. Fourth it allows for tax buoyancy, for with the development of our agriculture with all its subsidised inputs future receipts with growing agricultural surpluses. Fifth unlike existing direct taxes it has provided for a fair but uniform levy with few loop holes for the evasion in the many forms that are current today. The somewhat drastic recommendation to use the family as a unit has social and human rights echoes but this price has to be paid as the only means of introducing some honesty and discipline in our tax system. The integration of incomes and use of the operational holding concept will in any case have become necessary with the land ceiling legislation. The inclusion rentals on leased out lands in AHT will have to be worked out. Finally the administrative frame for AHT is not as complex as it looks. It has been drafted with a great deal professional care and academic minutiae but as experience in this State has shown it is really fairly straight forward and simple to set up and administer and will have a great many other fall outs for the development of our rural and agricultural potential. The norms recommended can be simplified in administrative terms. It is now for all sections of the community — business, farming, labour, and academic—in each State to study and accept these far sighted and far reaching recommendations and ensure that they are accepted by the State Governments and translated into legislation—and not allowed to suffer the fate of some other important committee's recommendations.

National Production Front :

Crude : The Country relies on imports for its crude supplies. World crude production of 700 million tonnes are controlled to the extent of 505 million tonnes by the four international oil majors and their associates. These few companies set prices and control all production and distribution of crude. It is against this background that the controversy between the government and the two foreign oil companies, Esso and Burmah Shell, must be seen. Esso has offered 74 per cent participation to the government, surrender of its refinery agreement and its right to supply crude from its own sources or sell all its interests in the Country and join in international bidding for supply of crude. Shell has offered the government majority participation. Behind these offers and discussion is the past and present decision of the government not to accept an increase in crude imports at the higher prices demanded by the companies (see Vol. I No. 11 and Vol. II No. 3 of the Bulletin), resulting in a 10 per cent reduction in crude imports, 10 per cent excess of crude refinery capacity and 10 per cent reduction of petroleum products. There is also the problem of the remittances abroad of their profits which for the 3 years 1968–71 amount to Rs. 20.75 crores (and not Rs. 191.96 crores as stated by the Petroleum and Chemicals Ministry, which includes its exchange releases for its crude imports). There is an obviously good case for takeover of the 2 companies and considering that their capital investment is Rs. 45 crores the takeover will call for little compensation. But the real problem is that these companies and their associates control 5/7 of the world supply of crude and as our experience with the purchase of

Iraq crude showed, through their further control of the world's tanker fleet, they will in any case be the dominant voice in our crude supply. The government therefore needs to develop rapidly and to the maximum our domestic sources, negotiate with the small and medium companies producing 200 million tonnes per year and who are outside this monopoly network, and develop our own tanker service in order to avoid the ridiculous situation of our paying higher prices to the alternative sources as we have done with National Iranian and Pan American for assuring supplies to the public sector refineries at Madras and Cochin. When these 3 conditions are fulfilled, the time for take-over will arrive. At present the demands of the economy call for using these companies with the framework of the agreements as a means of buying time for a sound crude import policy to be developed and executed.

Steel and metals : 1971-72 was a particularly poor steel year, Hindustan Steel Limited (HSL) recording the huge loss of Rs. 44.85 crores as reported in Vol. II No. 7 due to production far below capacity, rise in manufacturing costs and maintenance of large inventories. (In fact the record of all 78 public sector undertakings for every year of the Fourth Plan shows an increase in gross income but an even greater increase in costs resulting in a net loss every year because of the 3 causes referred to earlier). This year, however, HSL is performing well. For the quarter July-September the five main steel plants produced 8,02,652 tonnes against previous quarter's total of 6,72,997. During October, Bhilai worked at 90 per cent capacity, Rourkela at 63 per cent and Durgapur at 47 per cent. If this performance is maintained, and with the improved performance in IISCO and the steady production in TISCO, the production for this year will pass the 4 million tonnes mark. If the other public sector units (Rourkela and Durgapur) could produce upto 80 per cent capacity and with Bokaro we could end the year with even higher figure. And that is what should be the main concentration. IISCO is now producing ingot steel at the rate 50,000 tonnes per month (compared to 23,000 tonnes at take-over), and it should surpass its current year target of 3.80 lakh tonnes. Durgapur's attention is being uselessly diverted to continuing agitation to expanding capacity for stainless steel production beyond the current 13,000 tonnes (see Industrial Development section). Against its ingot capacity of one lakh tonnes (and the decision to treble this capacity to 3 lakh tonnes), and the target of 78,000 tonnes, the actual production for six months ending September was 32,000 tonnes which was 20 per cent below target. Its saleable steel capacity is 60,000 tonnes, but the first six months production was only 16,000 tonnes, which is 30 per cent below target. This means that the estimated loss of Rs. 140 lakhs for this year might go up to Rs. 4 crores. All efforts should now bear on working the ingot and saleable steel capacity of the plant and any diversion is a disservice to the plant and the economy. The three mild steel plants of HSL have a good record of 2,66,800 tonnes for October. The result is that industry will have a little more of this essential raw matorial. The steel priority committee has announced that for the quarter January-March 1973, 6.2 lakh tonnes of steel will be available for distribution. This should help the engineering and metals industries keep up the momentum of their growth recorded during the first half of the year. The metal working and metal forming machine tools units of the Country which met last year 63 per cent of the Country's demand and registered a 35 per cent production growth will further improve their performance. They can further reduce their imports of machi-

nery and expand their production of automatic lathes, gear cutting machines, grinders, pressed sheet metal working machine tools, machinery and accessories.

Railways : The railways bottleneck discussed in the last issue and in Vol. II Nos. 5, 8 and 9 of the Bulletin has been the subject of three ameliorative actions. The first is, in order to discourage the use of railway wagons as godowns by both public and private sector undertakings, demurrage and wharfage charges have been raised from Rs. 150 to Rs. 240 per day and the bailee's liability after termination of transit has been reduced from 30 days to 7 days. This will improve the turn around of the wagons. The second is the decision to increase the production of wagons from 27,000 to 30,000 during the last two years of the Fourth Plan. At present railways have 4.6 lakhs of wagons and have an order of 22,500 wagons with private builders and 6,860 wagons with its three workshops at Amritsar, Golden Rock and Samastipur. To this rather tight supply position should be added the problems created by recession, drought, famine and serious disturbances in the Eastern and recently the South Eastern sector. The demand for wagons has also increased for normal reasons of growth of the economy and due to the demand for coal by power houses, following the shortfall in hydro and atomic generation. Hence the decision to purchase an additional 3,000 wagons in addition to the 8,000 wagons for the 2 years of the Fourth Plan and to set up a wagon building Plant with a capacity of 4,000 units per day in the railway sector. The third decision is to develop a coordinated system of transportation of goods through all means—railway, road, sea and inland water ways. The first coordination is between railways and roads, which involves closing down uneconomic rail facilities and transferring them to road service, readjusting freight charges in view of high priced freight moving by roads, and rationalised and coordinated charges as between the two services. The main problem here is that while railways are a Union service, roads are largely a State service. The railway involvement in financing State Road Transport Corporations in which it has invested Rs. 30.75 crores to date would be one way of bringing the two services together. The annual loss of Rs. 10 crores by railways in their uneconomic branch lines could also be used for closing down these lines and investing the equivalent in road transportation. An integrated transport system also demands coordinated railway, coastal and inland shipping services. Here a start can be made by railways transferring to coastal shipping services the transport of coal. A start has been made with the agreement to transport by coastal ships Rs. 5 lakh tonnes of coal from Calcutta to the east and west coasts. An expert group has been set up to draw up an integrated transport system for the Country. The railways are also improving its passenger good service by serving "ready to serve" meals prepared in static kitchens under hygenic conditions, rather than in the hurly burly of railway wagons. This service covers 67 lakhs passengers every day. The result of these various measures should be the quicker transit of goods particularly coal, cement, foodgrains and other industrial raw materials and a more effective passenger service.

Other developments : At the end of October, 46 more sick mills were taken over by ordinance, making a total of 96 sick mills now under the aegis of the National Textile Corporation. The ordinance enable quick takeover action and rehabilitation of the mills, in which 1.1 lakh workers are employed, by the government, with no need to return them to their original owners, who simply run them in to the ground again. To stimulate further production, the time limit for applying to

government for expanding capacity in the 65 critical industries (see Vol. II No. 2 and 11 of the Bulletin), was extended for a further three months upto 31 December, 1972. The Task Force which examined 160 applications from larger industrial houses and foreign majority companies upto the end of September has approved all, but 68 which have been rejected. Applications from other units are cleared automatically. Another area of government action to stimulate production relates to small and medium industries to be established in backward districts and areas identified by the Planning Commission. To such units loans will be given at 7 per cent instead of the normal 8½ per cent interest, with longer grace period when the repayment may be made (increased from 3 to 5 years), longer repayment periods (15-20 years instead of 10-15 years) and reduced charge on undrawn balances. The IFC, IDBI, and ICIC in operating these concessions in addition to their feasibility studies and technical consultancy studies and the out right government grant of 10 per cent, will also underwrite shares and debentures and subscribe heavily to the share capital. This would be one way in which the embarrasingly large resources in the banking system can be ploughed back into production, particularly in the backward regions. How for these announcements and intentions are translated into projects now depends on the initiatives of the technician and entrepreneur. A further hopeful area is in shipping where the October returns show an operative tonnage of 2.6 million grt, with 1.5 million firmly on order. This means that the Fourth Plan shipping target of 4 million grt of which 3.5 million grt will be operational and a further 5 lakh grt on order will be attained. In this context the technology break through which enables HEIL to manufacture marine turbines needed by the Country and the indigenous components of its equipment by BEL (particularly the antenna drive mechanism, telephone sockets, relays, rotary switcher, etc.) leading to an annual saving in our electronics import bill of Rs. 50 crores are important production initiatives. This is in line with the government decision to give priority to the development of indigenous technology over turn key projects from abroad. Future collaboration agreements should lay increasing emphasis on applied science and technology. Another area of progress is the safeguards against industrial air pollution introduced in future licenses. Applications for industrial licenses are now required to ensure through the measures proposed that the discharges of effluent and gases into air, water and soil do not exceed the prescribed safety limits. Against the earlier analysis on our fertiliser needs and shortages, the decision to clear the long delayed fertiliser project of Tata Chemicals at Mithapur (Gujarat) is to be welcomed. The project will have an annual capacity of 2.10 lakh tonnes of ammonia and will produce 1.8 lakh tonnes of ammonium chloride and 2.5 lakh tonnes of urea. With the present excessive concentration on nitrogenous fertilisers wherein apart from 42,000 tonnes of phosphatic fertilisers the 7.83 lakh tonnes additional capacity are in for the former, increasing the current imbalance of nitrogenous phosphatic fertilisers from 3 : 1 to 4 : 1 by the end of the Fourth Plan, the revised formulation and delay in launching this project appear justified. An important feature of the project is that its feedstock will be imported low grade high sulphur crude which is cheaper than imported oil. The firm's design will enable it to switch over to indigenous crude as and when that becomes available. The cost of this project is Rs. 62.80 crores, with Rs. 32.18 crores in foreign exchange. There should be no further delay in executing the project, which should add to our fertiliser stocks at least by the end of the first year of the Fifth Plan.

Agriculture : The food front estimates continue at the same guesstimate level as reported in the last issue of the Bulletin. The estimating and forecasting machinery in the Country is still at a somewhat rudimetary stage as pointed out in Vol. I No. 8 of the Bulletin. It looks as if the 1972-73 foodgrain production will be around 100 million tonnes, with the most serious shortfall not in wheat and rice but in coarse cereals,—the poor man's food. While wheat prices in November were up by 4 per cent, that of bajra had gone up by 32 per cent, and maize by 51 per cent. The decision of the government to import one anda half M. tonnes of foodgrains at a cost of Rs. 100 crores is an act of wisdom, as the buffer stock has now declined to 4 million tonnes and as a measure of compensation to the fall in production consequent on the drought and the increased foodgrains demand following from exporting 9,00,000 tonnes to Bangla Desh and feeding 10 million refugees. Meanwhile it is essential that the Rs. 150 crores emergency food programme which is concentrated on lift irrigation and tube wells should ensure provision and distribution of HYV seeds and fertilisers. This may also be an occasion to improve the pulse and oil seeds production in the Country through the use of bacterial fertilisers which doubles the output from the present 500 kg. to 1,000 kg. per hectare. Given the shortage of nitrogenous chemical fertilisers, not only in the Country but all over the world, the production and use of biological fertilisers is both an agricultural need and will also open new industrial line. With pulses and groundnut cultivation occupying 30 million hectares, around 75 million packets of biological cultures should be produced by our existing private firms, supported and guided by a public sector unit which should be established for this purpose. For this the Rs. 20 lakhs research grant to IARI should be used to identify the bacteria needed for each crop and soil type and the media though they can be carried. This new fertiliser is needed not only because of the limited supply of nitrogenous fertilisers but also because our soil is losing about one million tonnes of nitrogen every year as our cattle eat up all our plant residues which in other countries are the source of soil nitrogen. On the food front attention is now needed on coarse grains. Here there are two problems. The first is that such grains are grown on marginal, drought prone and dry lands. When water facilities of any kind are made available in these areas, the farmers shift to more remunerative cash crops. The resulting shortfall in coarse grain output—the poor man's food—cannot be countered in the usual way by relying on market forces—the rise in prices—to lead to increased production. First the rise in prices is not enough to pull away from groundnut or cotton substitute cultivation and second the poverty sector does not have the purchasing power to buy even at the past prices, let alone the higher prices. Immediately the take over of distribution should start with coarse grains and not wheat and rice and the FCI and State Corporation should procure these grains in the same manner as they do wheat and rice, so that they are available at fair pricees for the poor man. Second coarse grains should be increasingly grown in non-marginal land, in non-drought prone areas. For this both improved varieties of seeds and land use pattern are essential. The hybrid jawar CSH-I is one example of such improved seed which has helped to maintain and increase production in areas where it was used. There are wider issues in regard to the emergency programme that is now under way. The heavy emphasis on minor irrigation in this programme raises questions as to its long run viability, particularly in drought and drought prone areas. Here the wells programme is not viable: all evidence from

various studies in the Punjab, Madhya Pradesh and Tamil Nadu show that its capital output ratio is 4 to 4.5. For these areas it is modernised dry farming and integrated land use planning involving an appropriate mix of field and garden land crops, forestry, animal husbandry, fisheries and the related agro industries that are the means of making agriculture in these areas—and they are our major cultivation areas—viable in terms of our food needs and the prosperity of the farmers. Cotton production estimates for the current year, 1972-73, are that it is likely to be anything between 3-10 lakh bales less than the target of 66 lakh bales. (For 1971-72 it was a record 65.26 lakh bales). The Indian Cotton Development Council has fixed the target for 1973-74 at 80 lakh bales in the hope that the cotton States hit by this year's drought—Maharashtra, Gujarat, Andhra Pradesh and Mysore will enjoy normal conditions for next season, the Intensive Cotton District programme will continue to expand and the infrastructure, price policy and procurment operations will be further strengthened. Even so the target is some—what unrealistic. Further action is needed to use cotton seeds not for feeding cattle but for oil crushing in order to increase the supply of oil and ensure pure seeds to the growers. (See Vol. II Nos. 8 and 12 of the Bulletin). Not much headway has been made in this regard. There is also the annual average loss of Rs. 126 crores over the past two decades (for 1971 it was a record Rs. 631 crores) due to cyclones and floods. It is computed at Rs. 126 crores for this year. It is certainly time that more effective measures are taken to forecast cyclones and prevent flood damage. The installation of radars at Calcutta and Pradip will improve our cyclone detection system and the anti-flood measures—detention dams, strengthening bunds and improvement of river channels in the Northern States—should be completed before the next monsoon.

Exports: Further to the positive export trends analysed in the last issue of the Bulletin, against the 1971 trade deficit of Rs. 277.4 crores, the first seven months of 1972 (January to August) recorded a trade surplus of Rs. 21.7 crores. Exports stood at Rs. 1,169.3 crores and imports at Rs. 1,147.6 crores. The Country's foreign exchange reserves at October 31, 1972 including SDRs were Rs. 778.5 crores, though due to debt service payments the reserves without SDRs registered a decline of Rs. 75.6 crores at Rs. 615.4 crores. The major booster in the Country's exports in November/December, which will have long term effects both in expanding exports and promoting some integration of the exports of Asian countries (whose total share in world trade is a fraction of the 17 per cent of the world trade accruing to all developing countries) was the triennial Asian Trade Fair—Asia 72—in Delhi during these months. 47 nations participated in the fair with an impressive display of their goods of various kinds and machines. The Asia 72 pavilion, the textile pavilion, the TDA pavilion and the Nehru pavilion were among India's impressive displays equalled by pavilions of Australia, USSR, France, Korea, Canada, Czechoslovakia, Japan and others. As a result of negotiations among 100 trade teams the government's offer of Rs. 4 crores for the purchase of Indian machinery and equipment by other Asian countries and the heavy accent placed on encouraging imports into the Country from other Asian countries including selling them through Indian outlets abroad, the Fair developed as a land mark in promoting our trade relations. At the Fair export orders from Europe and US for Indian goods—home furnishings, bicycles, dolls, loud speakers, electronic calculators, carpets, hand tools,—amounted to over Rs. 200 crores in the first 2 weeks. The Indian-Soviet Trade protocol for 1973 envisages a turnover of Rs. 410 crores

between the two countries. India's exports to USSR will include traditionals—deoiled cakes, cashew kernels, tea, coffee and spices, and non-traditionals like ready made garments, linoleum, garage equipment, electric motors, storage batteries, power cables and hand tools. Rs. 45 lakhs of 5,00,000 surgical instruments from IDPL will be exported plus a further Rs. 20 lakhs of instruments. Similarly export agreements in engineering goods, abrasives, oil pines, needles, vacuum flasks, leather goods, etc. amounting to Rs. 4.32 crores have been established in part as a result of Indian participation in the Plovdiv (Bulgaria) Fair. Automotive tyres exports have also been helped as a result of negotiations at the Automotive Tyre pavilion. There are at present 90 overseas buyers purchasing Rs. 7.05 crores of tyres as of 1971 and this figure will increase considerably. The production capacity of the industry needs to be rapidly increased to meet this growing demand, Despite the improved industrial performance referred to earlier at 7.3 per cent during the first six months of the fiscal year (an improvement against the low performance for 3 per cent in the previous year), the engineering goods industry which is the base for the Country's non-traditional exports still lags because the decline of around 10 per cent in the volume of production of capital goods. If the ratio of net investment in this sector is increased by around 50 per cent during the Fifth Plan, the export component can be more than doubled. The Yugoslav wagon order referred to in the last two issues of the Bulletin is still hanging fire. One part of the 3,600 wagons order—that by Burn and Indian Standard Wagons for 1875 units is being met on schedule. The other part, 1725 wagons to be supplied by Texamaco, Braithwaite and Jessop, is falling through for the familiar reasons. With the spurt in the domestic demand for wagons and a rapid escalation of costs, the three companies have refused to honour their share of the export order without a further subsidy from the government. The government has rightly refused this demand but will have to negotiate with Burn and ISW a fresh contract at a higher rate to meet the entire Rs. 38 crores order. There is here a general problem which in the long run could become a bottleneck for our foreign exchange earning sector—and that is the growing high cost structure of our industry which makes it non-competitive in the export field and with little inducement to seek exports in view of the sheltered high priced domestic market. The decision of the government to take over the export trade, as it has done from 1 December, 1972, in the case of textile exports is no solution. There is need to raise the productivity of our industries, particularly our export industries and relate their costs and pricing to their productivity.

Aid: India's debt repayment for 1972-73 amount to Rs. 504 crores and the net aid will be Rs. 100 crores. For 1971-72 the repayment liabilities were Rs. 457 crores and the net aid was Rs. 343 crores. The current year's debt repayments of Rs. 504 crores ($625 million which as pointed out in the last issue of the Bulletin is over 27 per cent of the Country's export earnings) breaks down into Rs. 329.7 crores in repayment of principal and Rs. 173.9 crores in interest payments. For 1971-72 the breakdown was Rs. 285.1 crores and Rs. 172 crores respectively. Thus the debt charges are climbing steeply year after year due to the heavy borrowings on hard terms during the Second Plan. There are four consequences of this siuation. First there is need for the export earnings of the Country to increase steadily—the Fourth and Fifth Plan target of 7 per cent should be attained as a minimum. Second while we talk of zero net aid for the Fifth Plan which as pointed out in the last issue is

impractical, the gross aid that we will need for debt payments over the Fifth and Sixth Plans will be over $600 millions or Rs. 550 crores per annum. Third the terms of future loans will have to be both soft and united. Most of the loans contracted in the past were tied but the repayments are in free foreign exchange. This can be corrected and the terms made softer. Fourth the programme of debt relief needs to be planned on a long term basis. For the current year, the debt relief arrangements are not likely to be finally known and definitely concluded till the end of the year. This should be replaced by a 5 year arrangement for the future. The debt relief for the current year is likely to be $160 million rather than $200 million recommended by the World Bank. The total foreign debt for the Country which was Rs. 6,602 crores at the start of the year will be Rs. 7,000 crores at the end of the year. Aid which has been Rs. 1,200 crores in 1967-68, has now fallen to Rs. 600 crores for this year. Debt repayments will require that the aid figure be maintained at this level till the end of the Fifth plan. For this year's debt relief of $160 million, Japan is expected to contribute $43 million, Germany $40 million, UK $18.5 million. As at the end of October, Belgium and Austria had already concluded the debt relief agreements. It is hoped that from next year some longer term arrangements can be made. November saw the conclusion of agreement on two UK loans totalling Rs. 78 crores for import of raw materials, spare parts and components for the fertiliser units at Gujarat, Tuticorin and Mangalore. Further a UK financed Appropriate Technology Development Centre has been set up at the Gandhian Institute of Studies, Varanasi which will assist in the use of tools, equipment and machines and processes suited to our rural areas, using local resources and skills and generating local employment. This is a small and important gap now being filled with the help of the effective Intermediate Technology Development group of the UK and should accelerate our rural development. A $200 million credit from IDA is being negotiated for the expansion of Nangal Fertilisers, IDBI's medium and small industries loan programme, power transmission and agricultural marketing. A Canadian loan of $1.9 millions was also concluded in November for bulk handling of equipment at Haldia and similar aid to Bombay, Madras and other ports to enable bulk handling of fertilisers is being negotiated. Another agreement with Canada for $3,00,000 is for a feasibility study of Hindustan Copper to help in the drive for self-sufficiency in non-ferrous metals. Netherland, Sweden, Denmark and France have established their aid for this year. Japan's aid will be of the order of $72 million including the $43 million debt relief referred to. A Japanese iudustrial collaboration study team visiting the Country in November identified four areas of further trade between the countries. Iron ore, which Japan imports from this Country to the extent of 18 per cent of its needs, could be quickly increased if the mining equipment were modernised in order to produce nearer the installed capacity. Fertiliser plans are the second area where Japanese collaboration can be considerably increased. Third in the electronics industry, Japan could both provide aid and import some of our products. A fourth area is the home appliances industry where, in view of domestic saturation, Japan would like to transfer some of its industries to India. Against this, the Japanese team has pointed to some of the obstacles to expanded trade and collaboration. The labour unrest in the Country, particularly that part which stems from political rather than industrial causes, our industrial licensing policy, the inflationary situation and our producing below capacity —are some of the obstacles noted. None

of these is new to any of us in India and it is not for expanding our foreign trade, but to expand our productive economy that we need to take the necessary corrective measures in these areas.

International

Bangla Desh : Bangla Desh's exports average Rs. 20 crores a month and it is possible that it will reach its target of Rs. 300 crores for the year, a much needed resource for its rehabilitation programme. Indo-Bangla Desh trade relations reviewed in the last issue are slowly picking up. From November 19 two river routes began operation,—from Calcutta to Dhubri via the Sunderbans, Khulna, Barisal and Chandpur and from Calcutta to Harimganj via the same route plus Narayanganj, and Sherpur. Boats on the two routes are carrying tea, jute, silimanite, timber, base oil and all bulk cargo and heavy steel materials. Other routes will also begin operation soon linking West Bengal, Bangla Desh, Cachar and Assam. An area where Bangla Desh is helping India in two ways is jute. To make up for the shortfall in our jute production (see Vol. II Nos. 11 and 12 of the Bulletin), Bangla Desh is supplying 1 million bales of raw jute to India. Second in view of the declining trends in international prices of gunnies and other jute products, a joint study group has been established by the two countries to work out common export policies for their export products. The trade between the 2 countries is lagging and is likely to be around Rs. 16 crores each way rather than the scaled down Rs. 20 crores forecast in the last issue of the Bulletin. Even at that, Bangla Desh's imports from India are running at a higher rate (Rs.10.9 crores as at September 30) than India's imports from Bangla Desh (Rs. 4.8 crores at that date). There are transport problems (which should now be relieved with the opening of the river traffic) and the availability of furnace oil and molasses are likely to be half of what is foreseen in the trade agreement. There are also the time consuming procedures of the official agencies on the Indian side which has led Bangla Desh to deal directly with Indian exporters. In the case of fish imports into India, India with its single Fisheries Development Corporation is not able to deal with more than 3 of the 17 offtake points and a few of the 3,000 exporters who have been licensed in Bangla Desh. The flow of trade in free currencies between the two countries has passed the target and machines, spare parts and textiles are flowing freely into Bangla Desh. The border trade continues to be suspended and it is wise that there should be no pushing for lifting this suspension from India, until Bangla Desh rehabilitation has progressed further.

Colombo Plan : The November meeting of the 26 nations Colombo Plan Consultative Committee meeting in November in New Delhi noted the decline of the Asian growth rate both in 1970 and 1971 and the overall trade deficits of the Asian countries amounting to 3,300 million in 1971. It also noted that the net transfer of resources to the Colombo Plan countries had declined in absolute terms and as a percentage of the total net transfers to the developing countries (despite the distortion introduced by the large aid programme to South Vietnam). In technical assistance alone the decline had been from $ 200 million in 1968 to $ 158 in 1971. In so far as this is due to the scarcity of high level experts it is not so serious as is in the decline of equipment and capital assistance. India which receives 109 experts from Japan, US and Britain is the leading regional donor providing 322 technicians and 12 experts in 1971 and receiving 845 fellows from the Colombo Plan countries for training. Against this somewhat sombre background the com-

mittee made eight recommendations and decisions to promote healthy and self sustained growth in the region. First the developed countries are requested to help in the problem of indebtedness of the developing countries by dismantling their trade and non-traffic barriers and opening their markets to the exports from the poor countries. Second the developing countries should increasingly rely on their own capital resources and avoid contracting hard commercial loans from the developed countries. There should be developed a good international reporting system to locate serious potential debt situations and debt relief should be organised to reduce the burden of indebtedness. Fourth there should be increasingly large aid plans simply to ensure the same transfer of net resources for development. Fifth given the accentuation of economic and social inequalities in rural areas consequent on lopsided development including the Green Revolution, the countries are requested to intensify the administrative and institutional arrangements for agrarian reforms, agricultural incomes, prices and trade. Sixth noting the 60 per cent increase in the population of the Colombo Plan region between 1950–70, it was agreed that the countries should intensify their policies to bring down the birth rate. Seventh concerning the growing menace of drug abuse, programmes to eliminate the causes and ameliorate the effects of drug abuse are to be considered and developed by the governments and discussed at the next meeting in New Zealand in 1973. Eighth there was a good discussion on the brain drain suffered by the countries of the region. India is among the worst brain drain sufferers in the world, according to a study presented to the committee. It suffers an annual loss of $1.73 million or Rs. 126 lakhs by way of expenditure on the education of those who emigrate and on engineers alone its loss is $ 1233 millions. The study holds Britain, Canada and US mainly responsible for the flight of the talent. The British National Health Service, for instance, depends for 44 per cent of its junior medical staff on the services of Indian and Pakistani doctors. 36 per cent of all Indian scientists working abroad are in the UK. These "pull" factors from US, UK and Canada who through the immigration waivers attract trained persons to meet their limited home supply (US needs 12,000 doctors annually but produces only 8,000) is aided by "push" factors of the developing countries — educated unemployment, poor service conditions, etc. Hence it was decided that the developing countries should promote revised national development programmes, new educational patterns, recognition of professional expertise and regional centres of excellence, while the developed countries would establish more adequate manpower programmes of their own in order to reduce the brain drain. Ninth and related it was decided to set up a regional centre for technical training at Singapore. Finally important decisions were made to use information services as a development input in the countries and to promote information exchanges on development through the establishment of an Asian News Agency and an Asian TV exchange programme. These sets of recommendations are needed and appropriate to speed development in Asia.

Population in Asia : The Tokyo conference in November on Asian population problems and trends called attention to the fact that by 2000 A.D. Asia's population will increase to 3,778 millions which is more than the world population today at 3,635 millions. This demographic picture is due to the rapid fall in mortality and a stationary high birth rate. The consequences are serious for five age groups. First the pre-school children will increase by 50 millions with serious attendant problems of malnutrition, pro-

tein deficiency and health services to be attended to as they are the future labour force of the region. Second the number of school children of the 5+to 14+will increase by 125 million in the seventies and will involve heavy manpower and financial consequences with regard to their schooling. Third the youth age group 15 to 24 will increase by 90 million in the seventies and it is this group which must be provided with in-school and out-of-school education and training facilities as they are the labour force entrants. Fourth the increase of 285 million workers in a region where unemployment and under-employment have reached serious proportions will mean both higher capital investments and the creation of additional jobs. Finally the old age group will increase by 41 millions and will call for significant investments in old age facilities and provisions. The Asian population perspectives are grim and the need is for the region to attain a 1 per cent birth rate as early as possible—so that at least after 2000 A.D. there can be a levelling off of the population pressure on development resources and potential.

World Food Supply: For the second year running in 1972, world food production will fall behind world population growth according to the FAO 1972 survey. In 1972 as in 1971, world food production has increased by a mere 1-2 per cent, while population is growing by 2-3 per cent. Bangla Desh has had to import wheat and rice in large quantities as has USSR and China. World wheat production is adequate to cover all export demands. For the developing countries food production must increase by 4 per cent annually to meet the demands of their growing population. The FAO Asian conference plan of action analysed in the last issue of the Bulletin with its six regional priority projects should assist the Asian countries in meeting this target: the improvement of dry farming with the help of the new institute at Hyderabad, the regional livestock centre being created, the promotion of cooperative fisheries development programme, the stimulus to agricultural diversification, the creation of the Asian centre for agrarian reform and rural development and a regional training centre for wild life management and crude forests.

World Trade and Shipping: In the second quarter of 1972, world trade rose by 7.1 per cent over the same period in 1971—to $ 3,68,000 millions or Rs. 2,64,960 crores. The growth rate of developed countries was 7.6 per cent for the second quarter of 1972 compared to 7.3 in the equivalent 1971 period, while that of developing countries was 5.3 per cent in 1972 compared to 5.6 per cent in 1961. It was not therefore surprising that the November meeting of GATT saw serious divergences in the view points of the developed and developing countries. The meeting attended by 80 member countries, who account for 80 per cent of world trade, established a statement which states that next year's ministeral meeting in September will consider the results of the trade talks on tariff and non-tariff barriers in regard to agricultural, industrial and tropical products of the developing countries. This is the UNCTAD formula. What the developing countries wanted was specific reference to commodity agreements, agricultural price stability and increased access for the exports of the developing countries. The need to increase the share of world trade of the developing countries should be translated in practical terms even more urgently than the need to increase aid to them. World shipping is also expanding fast from 247 million gross tons in 1971 to 268 million gross tons in 1972. This is a doubling of shipping facilities with over 80 per cent belonging to the developed countries. India is ranked 16th with its

total tonnage of 26,50,000 representing an increase of 1,72,000 tons since last year.

World Monetary reform: Discussions in the United Nation's system on world monetary reform in November and December centred around short term and long term issues. The immediate issue facing the world is the fact that the pace of inflation in 1972 has been more marked than the increase in the growth rate of most industrial countries. In fact the year saw an accelerated pace of inflation in these countries and it is on measures taken by them to effectuate their controls on prices that progress in combating the inflationary bias in the world economy will depend. In fact for the developed countries the anti-inflation programme calls for integrated use of all appropriate instruments — fiscal, monetary, price and income policies as the IMF President points out. On the long term issues, one agreement that is emerging is the need for a more flexible exchange rate system which could be used particularly by the reserve centres-the UK and the US. The three day Washington meeting of 150 officials in November discussed the US reform plan which commanded general agreement on most of its parts, namely, wider currency rate margins to discourage speculative buying and selling and transfers in the hope of revaluation and increasing reliance on SDRs as the measure of a currency's strength. The part which has not commanded agreement is the proposal to make it obligatory on a country to devalue or revalue its currency when it is called for by a chronic imbalance—positive or negative—in its international balance of payments. The obligatory nature of the proposal is that a country which does not then undertake the change in its exchange rate will have sanctions imposed on it. Apart from the surrender of some (quite useless) sovereignty in our sovereignty conscious States involved in the proposal, the real economic problem is to devise an agreed measure of what constitutes an unacceptable surplus or deficit. The discussions have not yet come round to issues most closely touching developing countries—a further issue of SDRs, its more equitable allocation and its link with development assistance.

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II. Agricultural Development

Rice:

By early November, 60 per cent of Kuruvai paddy and by the end of the month the entire crop was harvested in Thanjavur in good shape, as reported in the last issue of the Bulletin. The yield has averaged a little over 2 tonnes per acre, in some cases going a little beyond 2.5 tonnes. The purchase of Kuruvai paddy has been a problem. There are 162 procuring centres in the district plus mobile squads which move from village to village purchasing paddy. And yet while in 1970 the daily arrivals in the procuring centres was 1,500 tonnes, for this season it has been 400 tonnes only. Against the target of 30,000 tonnes, FCI has procured only 6,000 tonnes and the State agencies 2,000 tonnes. Part of the difficulty has been the heavy rains in November which prevented farmers bringing their stocks to the procurement centres and made the villages inaccessible to the mobile squads. There is no doubt that as a consequence there has been some distress sales. In Nannilam and Kodavasal blocks paddy was sold at prices ranging between Rs. 25 and Rs. 28 per bag of 57 kg. It is necessary to build all weather roads between the procurement centres and the producing

villages and to reestablish the dryers, so that wet Kuruvai paddy can be dried before being sold. The farmer will not then have to take a price cut for moisture in the paddy. Tight money market conditions locally has also inhibited purchases. Now that there is no buying in the district, over one lakh tonnes of paddy have moved out to other districts. FCI has moved 25,000 tonnes of rice procured from last year to Kerala and will reimburse the State to an equivalent amount as and when needed. The food situation at the end of November in the State with a stock of 1.25 lakh tonnes of rice, including the 25,000 tonnes to be reimbursed by the FCI, is satisfactory.

With a satisfactory level of water in the Mettur reservoir which was over 112 feet against a maximum of 124 feet in November, the Samba and Thaladi prospects in Thanjavur are assured. In fact with continuous rains in November, no water could be drawn for irrigation purposes. Since the rain water in the river systems in the delta worked out to as much as 2,000 cusecs flow and are all drainage rivers, any drawals from Mettur faced the double danger of breaching the rivers and drainage congestion in most of the delta. Hence Mettur waters have been used from December. The Samba crop is extended over 8 lakh acres and Thaladi 4 lakh acres. For the Navrai season (December to March), the acreage under IR-8 and its derivations in North Arcot, South Arcot and Chingleput districts has been increased from 2.84 lakh acres last year to 4.82 lakh acres for this season involving an additional rice production of one lakh tonnes. In Thanjavur there have been problems of insufficiency of nitrogenous fertilisers. For the State 1.52 lakh tonnes of nitrogenous fertilisers are needed for the present season. For the year as a whole 2.50 lakh tonnes are needed. For the 3 districts—North and South Arcot and Chingleput—the Navrai season requirements is 48,000 tonnes of complex fertilisers and 24,000 tonnes of urea. These should be stocked at the block level and made available promptly to the farmers.

Dry farming:

A recent Techno-Economic survey of the Dharmapuri district shows that dry lands account for 85 per cent of the district farming and irrigated land constitutes 15 per cent which can be raised to 20 per cent. There are two consequences to be noted in the development plan proposed. First is that the increase in irrigated land and a 50 per cent rise in its yield will raise the value of its gross product from Rs. 17 crores to Rs. 34 crores. The fall in dry land cultivation however can be accompanied by a doubling of its yield which will increase its gross product from Rs. 38 crores to Rs. 70 crores—by 1981. The crucial role of dry farming in raising the value added in the district may be noted. Second whereas the capital output ratio (ICOR) of irrigated land production in the district is 4 or 4.5 : 1, the ICOR for dry land is 1:1. (See paper by E. Da Costa on S. p 55 in the special section of the last issue of Bulletin). This study once again confirms the stakes of the State and the country in dry land farming. The millets cultivation programme for Tiruchi, Madurai, Salem, Coimbatore, Dharmapuri and Tirunelveli covering cholam, cumbu, and ragi during the Navrai season is being grown over 4.17 lakh acres. It is essential that our extension services should concentrate on helping the dry farmers with fertilisers use as much as they have been taught about the moisture regime of the soil. Basically the millets, cambu HB-1, HB-3, HB-4, HB-5, the grams and cholam CSH-I, ragi, grounduut, sunflower and castors are suited to dry farming and the soil moisture is all important. They are secure crops even in areas of scarce rainfall. But as the cumbu trials at Rama-

nathapuram and other locations have shown, all these crops can produce very much higher yields with small applications of nitrogen (upto 50 kg. per hectare) and where the soil is deficient in phosphorous a fifty fifty division between nitrogen and phosphorous fertilsers will yield high returns. These fertilisers are available to the farmer in animal dung and vegetable wastes which are not now being used by him and are used instead as fuels. For the State the demand for cow dung is around 35-40 lakh tonnes and vegetable wastes around 50-55 lakh tonnes up to the Fifth Plan period as pointed out by the Task Force on agriculture. On an All India basis, in using as fuel around 40 crores tonnes of wet dung, we are depriving our dry lands of 2,000 million kgs. of nitrogen, 560 million kgs. of phosphoric acid and 1,800 million kgs. of potash, adding up to the enormous value of Rs. 800 crores. That is a form of capital consumption which can be stopped if alternative cheap fuels are made available to the dry farmer in the form of sun cookers and gas and cheap coal and if the farmers can be helped to construct simple dung pits with a protective cover. Then we will be returning to our dry lands 70 per cent of nitrogen, 75 per cent of phosphoric acid and 80 per cent of potash. This fertilising of the dry land can be ensured if each farming family has three heads of cattle which with the above protection measures will yield him six tonnes of manure per year and is taught to conserve and use the dung—which would have a nitrogen content of 60 kgs. valued at Rs. 170. The cost of cattle and manure pits will have to be provided as credit which can be recouped in 3 to 5 years. The cropping pattern in these lands can be varied in order to grow single or double or even three crops. In this context short duration varieties of castor seed such as Aruna, SA-1, SA-2 can be used as single crop or as an inter-crop with peas, grams or groundnut depending on the timing and volume of the rains. The Oil Seeds Research Centre in Salem has shown that SA-1, and SA-2 grown as a mixed crop involves a cost of Rs. 33.50 and a gross return of Rs. 300 or a net return of Rs. 266.50 per acre. In the State, castor should be developed rapidly as it is short duration, drought resistant and offers no risk but all compensation as a minor crop in our dry lands. As a pure dry crop its cost output analysis shows a net profit of Rs. 425.50 per acre – a level which our dry farmers need to attain and take advantage of. Similar considerations apply to another potentially important dry crop —sunflower. For this year the State target is to cover 2.1 lakh acres with sunflower and around two thirds of the target was attained by November 1972. This was done by distribution of 1,200 tonnes of seeds among the farmers, about 1/3 being distributed free to popularise this dry crop at the rate of 4 kg. of seeds per acre. As a dry crop it yields 200 to 300 kg. of seeds per acre. The remaining area which is being covered this month and next under irrigated cultivation will need 3/4 to 1 tonne. Both dry and wet crops require a minimum of fertiliser application. The double product of sunflower seeds are oil which ranges from 30 to 36 per cent of the weight depending on the mode of extraction and the cake which is used as cattle feed. Another dry crop, groundnut, faces dormancy problems in its latest variety—TMV-10 (see Vol. I No. 11 of the Bulletin). TMV-10 as explained there has a higher yield, better shelling outturn and is richer in oil yield (55 per cent) than TMV-1 and other varieties. But the incapacity of the seeds to germinate until 60-65 days after harvest has been a limitation. Experiments at the Regional Research Station at Tindivanam where the variety was developed indicates a simple way out. At a cost of Rs. 6 for an acre's seeds, if they are soaked in Ethrel, 80 per cent germination is induced within three weeks of the

harvested kernels. This treatment should now be popularised in the cultivating areas in the State, particularly as the groundnut crop has declined for this year as indicated in the last issue of the Bulletin. In fact the sales of the new crop in November/December started at the very low 25-30 tonnes a day in Madras gradually increased to 340 tonnes a day at Tiruvannamalai, Arni, Tirukoilur and Villipuram. The groundnut arrivals on the market were not only smaller in volume but poor in quality and were not fully dried as a result of the rains. The effects were seen in rising prices of oil and vanaspathi not in the State but in Bombay and Calcutta markets.

Cane, vegetables and flowers:

Experiments in improving the yield of cane, vegetables, fruits and flowers in the State centre around the quantity and manner of use of fertilisers. Lumpy and concentrated application of N or P or K decrease both quantity and quality. Experiments in the Nellikuppam area by the Sugarcane Research Centre at Cuddallore has shown that high levels of nitrogen or potassium application to sugar cane not only reduces slightly the quantity grown and recovery rate, but also pushes up the cost of cultivation needlessly. A 112 kg. nitrogen per acre soil application yielded 45.9 tonnes of cane and 4.54 tonnes of sugar per acre, while a split application—45 kg. nitrogen soil application cum 23 kg N in the form of urea spray—produces 46 tonnes of cane and 4.60 tonnes of sugar per acre. A slightly more marked difference was seen in the split application of potash to both yield and recovery. The major difference here is between using and not using potash—the former resulting in a six fold yield. But the real case for split application of fertilisers is the resulting economy to the farmer which runs to Rs. 100 per acre. As cane cultivation is being rapidly expanded in the State, particularly in Thanjavur and Dharmapuri, to meet the all India demand the practice of split fertilisers application should be built in the cultivation techniques. Other factors affecting cane production are the increasing varieties of cane that have been developed mainly through the research programme of the Coimbatore Sugarcane Breeding Institute going back to 1912 as a result of which the new varieties (seven) have doubled the yield per acre in this State and trebled in the Northern States. Others (fifteen) in addition to increased yield are resistant to wilt disease, inter node and top borers and are also resistant to drought or frost. Now the Institute is promoting not simply the high sucrose varieties because they are poor yielders but early ratoons which need to be spread in accordance with the early, medium or late maturing habits to keep sugar recovery at a high level. Another important breakthrough is that sugar cultivation can be subject to inter cropping with paddy. Such cane inter cropping can give the Thanjavur farmer Rs. 300-400 per acre extra. This is one of the main hopes for spreading cane cultivation in Thanjavur.

Vegetables production in the State also will profit by using improved methods of fertiliser application and the other techniques. The Task Force on Agriculture (see last issue of the Bulletin) points to the serious deficit in vegetable supply (10.75 lakh tonnes) against the demand (37.67 lakh tonnes) in the State. There are here two problems. The first is to increase the production of vegetable particularly the Indian varieties, which are the common man's food. Brinjals, snake gourds, all the varieties of beans and peas are in short supply and by improved and extended methods of cultivation their supply can be increased. A little more research is needed on the precise modes of fertiliser application. The second problem is to improve immediately the distribution

system. The Nilgiris vegetable programme (see last issue of the Bulletin) now extended to other hill areas, Yercaud, Kodaikanal, etc. with the help of the Rs. 3.5 crores Union project for hill areas development is producing large quantities of cabbages, cauliflower, peas, tomatoes, etc. and their cold storage in the main urban centres and their effective distribution through the Tamil Nadu Vegetable and Fruits Association and Tamil Nadu Cooperative Marketing Federation should be ensured. The rather abnormal rise in prices of vegetables in the State during the last quarter of 1972 was essentially a distribution problem where the middlemen and commission agents have been playing an unhelpful part.

Another area, cultivation of flowers, is also expanding fast through the application of tunnel techniques. Useful foreign exchange earners are jasmines, petunias, geranium, etc. The technique now being applied is the mist propagation chamber method for quick and mass scale production of flowers. In Coimbatore this method has replaced the layering method and has resulted in both quick and large production of jasmines. The tunnel or chamber is simple, constructed with a small pipe overlaid with plastic transparent film. In the airtight structure, water pipes are regulated to create a mist and the humid atmosphere results in a six to eight week implantation of roots. The method is also being used to other varieties of flowers, the large scale production of plants and seeds,—for export. There is a a growing demand in the US and UK for the plants, flowers and seeds and this also ensures a standard of cleanliness and purity which our farming needs. The method can also be tried for large scale production of vegetable seeds. A new virus has been reported in banana plantations in the State, particularly in Poolathur and Perumal Malai. The virus can be controlled quite easily by prompt action to isolate and destroy the disease ridden plants and fruits and regular monthly spraying of parathion. Here again as the common man's fruit, the Department should intensify action to help plantation owners in identifying and destroying infected plants.

Soil conservation :

The Soil and Water Conservation and Land Use Planning Institute at Ootacamund which has been developed out of the Soil Conservation Research Training and Demonstration Centre will meet many urgent needs in the State and the Country. It will help in developing a soil and water conservation technology suited to the needs of the State which is faced with increasing soil erosion, and depletion of natural resources due to careless farming, denuding of our forests and indiscriminate mining practices. Second, parts of the State which are characterised by water shortage and gradually moving into scarcity conditions. The Institute will concentrate in developing water conservation and development programmes. Third the State Planning Commission's Task Force has recommended the development of two lakh hectares in seven hilly areas for the cultivation of pepper, tapioca and sub-tropical crops. For this programme, the key factor will be water and soil conservation in the hill areas and this would be a major task of the Institute. The Institute's establishment is well timed. The Fifth Plan (National) envisages a Rs. 500 crore soil conservation programme and the Institute can help this State and the Country to use this needed initiative and replace the use of foreign techniques by a technology suited to local conditions.

Fish and Dairy Farming :

Following the impressive fisheries perspective plan put forward by the State plan-

ning Commission's Task Force (See Vol. II No. 12 issue of the Bulletin), the November Seminar organised in Madras on mariculture emphasized some important steps in executing the plan provisions. First there is need for intensifying the survey of fishing grounds in the State and working out in detail the economics of the different sizes of fishing vessels at varying depths—glass reinforced plastic and ferro-cement for medium sized boats, steel for bigger trawlers and wood for small offshore boats. Second back water farming should be extended rapidly as a simple method of fish farming—particularly for shrimp culture. Third this requires developing a suitable feed for shrimp culture, conservation and correction of young ones in the appropriate season as well as undertaking prawn breeding in captivity. Fourth on the administrative and financial side, the greater involvement of cooperatives in the fishing industry, organised training programmes in mariculture as well as financial inducements through subsidies and excise duty exemption for fuel oil used in fishing vessels have been agreed upon. An important development has been the acceptance by the Reserve Bank and the commercial banks that fishing finance will be treated as one of the special sectors deserving support in view of its meeting a growing domestic demand and its place as a foreign exchange earner. In the dairy field the use of plastic milk containers replacing existing bottles by the Tamil Nadu Dairy Development Corporation, following similar developments in UP and Himachal Pradesh is, under demonstration study. Two "Sachet" units costing Rs. 1.5 lakh each are being imported for this experiment. There will be savings in time and money in this operation but consumers must be taught to store or dispose of the empty containers in a proper manner if the streets are not to be littered with the kind of rubbish seen in the countryside in the affluent countries. In the poultry farming field, some experiments being conducted in Andhra Pradesh of controlled feeding of poultry in order to increase the quantity and quality of eggs laid is of special interest to this State. The cost of feed is three fourths of the poultry farmers budget which is in any case balanced on a razor thin edge. In the West this technique is well developed as against the continuing practice in the State that the more the birds are fed the better will be their egg laying capacity. This is both untrue and uneconomical and so the results of the successful experiments to adapt controlled feeding practices to our conditions are important—should it be 80 or 75 of a full fed? What nutrient elements need increase, what need decrease? etc.

Rubber :

State production of rubber and that of the Country is at a satisfactory level at over 2 lakh hectares, producing 92,171 tonnes giving an average yield of 653 kg. per hectare. The industry's successful production efforts are due to the joint efforts of the Rubber Board and growers who have undertaken a successful programme to replace their old standing trees periodically with new high yielding clonal material, to control pests and diseases by appropriate techniques and to increase production in all ways possible. The grants and subsidies that the growers receive from the Board are put to effective use. The other basic reason for the success of this plantation crop is that it enjoys a protected growing internal market as the entire production is taken over by our manufacturers and the price which the growers will be paid has been fixed well in advance and maintained. The time will soon come when the growers will have to face international competition from rubber production of Malaysia, Indonesia and Sri Lanka. Efforts must now be turned to developing levels of

productive efficiency at least to those of our three neighbours.

Tea :

The financing of tea development in this and other States, of which the Dutt recommendations summarised in Vol. II No. 11 of the Bulletin are an important element needs continuing attention. It is true that world production of tea during 1971 reached a record level of 1,319 million kg., which was an increase of 13 million kg. over 1970. The 1972 output is likely to increase further. The joint quota fixed for India and Ceylon, the two largest producers for 1972-73 and 1973-74 is 425 million kg. and 432 million kg., falling to 404 million kg. for 1974-75. India is way above any other country as a producer, the second place being taken by Ceylon at 217 million kg. while India produced 433 million kg.—(1970). There is need for the consumption of tea to expand in other countries to prevent a continuing fall in price which has been the trend since 1969. One element is to improve quality and the development performance of the industry—which calls for finance. Here there is a curious paradox. On the one hand the demand for development finances is clearly set forth by planters—particularly small planters (see Vol. II Nos. 9, 10 and 11). On the other hand the Agricultural Refinance Corporation returns show that the problem is not one of lack of finance but of demand on the part of planters. Of the ARC's loans to 114 schemes for tea, coffee, rubber and cardamom development involving Rs. 8.43 crores, ARC's share was Rs. 6.93 crores. This means that only a fraction of the large financing needed by the industry has been used. Even worse the ARC reports that it has only 3 proposals for tea development pending before it. One reason for this non-availing of the financial facilities of banks is the lengthy, cumbersome and complex procedures for loan finance—procedures too complex for the small planter. Here there is need for further simplification by the Banks but there is also need for the Banks (not ARC) having specialised staff who can help the small planter fill the forms and present the project loan in a form appropriate to banking requirements and needs.

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III Industrial Progress

Salem Steel :

The progress in the development of Salem Steel Plant continues with some uncertain elements introduced in December. On the one hand there are plans reported in the last issue of the Bulletin to work backwards, taking up first the building of the cold rolling complex to go into operation by 1976 in order to produce 1,95,000 tonnes of finished alloy and special steel, to be followed by installation of the electric arc furnaces so that the plant will be rolling out stainless sheets by the middle of 1977 and silicon sheet by 1979. The element of uncertainty arises from the December announcement of the Steel Ministry that the choice of product mix for the Alloy Steel Plants for Durgapur will be reexamined following the 3 months agitation by the West Bengal authorities and HSL staff for increasing the stainless steel capacity of the Durgapur Plan (see Vol. II Nos. 10 and 11). Originally planned with 18,000 tonnes capacity for stainless steel, the Durgapur capacity was finally established at 13,000 tonnes.

Its current production is 3,000 tonnes and at a quality which makes its marketing difficulty. The Durgapur plan of March 1971 proposed to increase its stainless capacity to 60,000 tonnes, so that its cash receipts would increase to Rs. 130 crores with a gross cash surplus of 50 crores. This plan was rejected by the Steel Ministry in August 1971 which on the one hand allotted the entire new stainless capacity—75,000 tonnes of electrical strips and 30,000 tonnes of other varieties to the Salem Steel Plant and on the other hand decided to expand the installed ingot capacity at Durgapur from one lakh to 3 lakh tonnes at a cost of Rs. 120 crores. This would give Durgapur saleable steel of 2 lakh tonnes and an annual gross surplus cf Rs. 8 crores only from a turnover of Rs. 70 crores. The reconsideration announced involves providing more stainless capacity at Durgapur in order to make the plant profitable and to enable it to correct its faulty choice of technology and the bad planning of the product mix. All this has serious consequences both for this State and the Country. First the reopening of the Durgapur expansion issue will in turn mean a reconsideration of the product mix for Salem and involve a serious delay in execution of the project. Second in this area it is important that the latest and most sophisticated technology be used and for that a clean sheet as in Salem provides the suitable basis. Third the record and tradition in Durgapur referred to in the last three issues of the Bulletin give little ground for hope that expanding its stainless steel capacity will take it out of the red. Its cumulative losses are over Rs. 30 crores. Its ingot production is so below capacity that the new project will likely follow the same pattern. Fourth it is important that the easy solution of maintaining the Salem product mix and expanding Durgapur at the same time should not be adopted as stainless steel is a luxury consumption item and it will be against the anti-poverty policy objective to expand this product. If the product mix in Salem is changed or reduced, it will join the ranks of Durgapur in becoming a losing proposition and an unviable project. Against this background the choice is either to adhere to the August 1971 decisions for Salem and Durgapur or completely revise the Salem project along lines of Vizag and Vijayanagar. It is now being planned to step up the capacity of the Vishakapatnam and Vijayanagar Steel Plants from 2 to 3 million tonnes a year to make the plants viable, as otherwise each plant will be losing Rs. 50 crores a year annually. A further improvement envisaged in the two plants is to use smaller blast furnaces of 2,750 cubic meters instead of the 4,000 cubic meter furnaces of Soviet design. TISCO's further expansion from 2 million tonnes to 4 million tonnes now under study has similar reasons. A further move is to bring Salem Steel Plant and Bokaro under the holding company for steel (see Vol. II No. 9 of the Bulletin). The constitution and composition of the holding company are now being finalised. Another important development is that 400 acres of land adjoining the Salem Steel Plant are being set up for ancillary industries and for entrepreneurs who will work for the plant with the help of the developed plots in this scheme.

Industrial facilities:

A branch of the National Test House to be set up in Madras to provide facilities for testing and evaluating materials produced by our industries. At present such testing takes place either at the central point in Calcutta or at the branch in Bombay for all Tamil Nadu industrial products. With the growing importance of raising the quality of our products and certainly preventing their constant deterioration, the Madras Testing Service will provide an important industrial facility for the State. As

reported in Vol. II No. 10 MERADO and CSIR complex have now completed their survey of the needs of Tamil Nadu industries for their services. In fact the result is that the laboratories are now flooded with more work, consultancy, project and pilot plants—than they can undertake. The isolation of this important infrastructure from the industrial needs and development of the State has now ended. MERADO is engaged in designing and supervising the production of prototypes for several items of machinery used in bottling plants for beer, milk, soft drinks, etc. Bottle filling, cork closing and washing machines are being designed completely indigenously to meet the bottling needs of the State. This is the start of an expanding programme of converting the laboratories' inventions into innovations and industrial processes.

Textiles:

Textiles production and prospects present a mixed picture. The All India performance in 1971 helped to depress the industrial growth rate of the Country. With a share of 21.18 per cent in the industrial production index, the index of cotton spinning declined from 127.04 in 1970 to 116.6 in 1971 and weaving from 92.2 to 88.7. As pointed out earlier (under the section National) after the bumper crop in 1971–72 of 65.26 lakh bales of which Tamil Nadu's share was 3.89 lakh bales as analysed in Vol. II No. 11 of the Bulletin, the 1972–73 trade forecasts are a low 56 lakh bales. This is only a guess and a more precise estimate of the current season's crop will be available in a couple of months. But already the prices for different types of cotton are rising and adding to the problems of the textile industry. In the south and the State the cotton supply position is comfortable as there is a large carry over from last year's crop. The first six months' production has therefore been positive with an increase of 15.1 per cent in yarn production, 10 per cent in cloth production and an increase in exports compared to the first six months of 1971. But there are serious problems that the textile industry in the State faces with consequences for future production. First the impact of the 25 per cent power cut was analysed in the last issue of the Bulletin and if there is any further increase in the cut, the results may be even more critical. Second the industry has depended on deposits that it has attracted for its wide capital base. With the restrictions now introduced by the RBI on deposit holdings of non-banking, non-financial institutions, the mills will have to return the deposits in excess of the permitted limits and thus accept a serious shrinking of their working capital funds. Third the mills are now being faced with the alternative of slowing down their modernisation programme in order to finance their working capital needs or complete their planned modernisation and expansion programmes and cut back on actual production because of their restricted cash flow position. This probably is the most serious structural problem they face which could have long term consequences. Fourth the demand profile for textiles is uncertain. The combined effect of the inflationary trends and the reduced rural purchasing power consequent on the drought could lead to a fall in demand and a reduced cash flow over that on which their production and modernisation plans were based. Already a number of indices except those referred to earlier such as gross profits, the number of mills making profits and the rate of return on gross turnover are showing a declining trend and this together with the increasing cost element are a disturbing feature. With regard to the sick mills in the State, under the October Presidential Ordinance, seven more mills have been taken over. The Union Government has offered the State the same conditions—51 per cent of the capital—as for the previous 7 mills taken

over and has requested early action. This makes a total of 14 mills which now come under the Tamil Nadu Textile Corporation.

Boiler Plant :

In relation to the power crisis discussed under the State section, the ability of Tiruchirapalli to meet the needs of power equipment now and during the Fifth Plan is important. As pointed out earlier, the present power generating capacity of 16.4 million KW will be increased to 20.2 million KW by the end of the Fourth Plan and to 42 million KW by the end of the Fifth Plan. This doubling of the capacity involving commissioning of more than 4 million KWs annually during the next seven years depends on proper planning and effective execution of the projects on the one hand and the capacity of the public sector to meet the equipment needed for this 3-4 time increased level of activity. Unlike other public sector undertakings the Tiruchi Boiler Plant is in a position to meet the increased generating equipment needs. As pointed out in Vol. II Nos. 4 and 6, its second stage expansion will increase its capacity to produce boilers to generate 2,500 MW by 1977-78 Again unlike other public sector undertakings, with modest import of some technology and seamless steel, its prices are internationally competitive so that the increase in our generating capacity in the coming seven years will not involve a high cost structure.

Sugar :

The production of sugar in the State is moving in a satisfactory direction. During the first month of the crushing season, October 1972, the output was 1.04 lakh tonnes compared to 41,000 tonnes in 1970. One unit, Sakthi Sugars at Appakudal became the foremost factory in the Country for the quantity of sugar crushed in the year October 1971 to September 1972 at 5.9 lakh tonnes of cane producing 5.5 lakh quintals of sugar. In sugar production it stands second, only because the sucrose content of our cane is 9.5 per cent (which is higher than the 8-9 per cent average in the State), the first unit in this regard being Sangli, as its Maharashtra cane has a high 11.6 sucrose content. One of the urgencies in the State is for the Department, SIMA and the Tamil Nadu Agricultural University to intensify their research to increase the sucrose content of our cane as noted earlier. The season in the State has thus started well with 87 mills crushing in November 1972 compared to 47 in November 1971, and a certainty that the three Southern States and Maharashtra will produce this season 20 lakh tonnes and if UP and Bihar do their share the Country's total production should surpass 38 lakh tonnes. The good production in the State is due to several factors. The rise in the exfactory price of 20 paise per kg., which compensates the mills for increase in the price of cane (14 paise) and the 8.33 minimum bonus and bank rates increase (6 paise) plus the rebate in excise duty on sugar in relation excess of production over November 1971 account for the production increase. The rise in levy and free sale sugar prices referred to earlier is a consequence. The State Planning Commission has forwarded to the Union Planning Commission, at its request, an emergency plan to set up a sugar complex in Thanjavur (also referred to in the section on the Perspective Plan and in the last issue of the Bulletin). The proposal is for setting up 3 or 4 mills with a capacity of 4,000 tonnes each involving the use of 1.5 to 2 lakh acres in that district for cane cultivation. The entire production will be a contribution to the national pool. The bagasse which is its bye product will be used for setting up and operating a paper mill. In addition molasses, another bye product, will be used for manufacture of industrial alcohol. The plan proposes

duty free supplies of furnace oil in order to release bagasse to the paper mill and keep costs down. The long term trends to increase sugar production in the State and Country relate to the technical factors referred to, improved sucrose content of the cane, full use of bagasse and molasses, easy credit facilities, etc. on the one hand and modernisation of machinery. From this point of view, the State which ranks fifth both in number of factories (16) and production (2.86 lakh tonnes) in the Country is in a fair position. The life span of sugar machinery is around 25 years. In the State 7 mills including 3 cooperatives between 11 to 25 years and 3 more than 25 years old. These 3 factories must immediately modernise their equipment and not take refuge behind the near disastrous position in UP where 64 out of 71 factories in Bihar where 29 out of 30, and in Maharashtra where 11 out of 41 factories are in that position. In UP 4 factories and in Bihar 7 factories have machinery which is more than 51 years old. The Sugar Enquiry Committee should propose action to deal with this disatrous situation.

Leather :

Leather exports have increased so fast that as a foreign exchange earner it has jumped from the fifth to the second place in the export earning map of the Country. This year's earnings are estimated to be around Rs. 150 crores against Rs. 98 crores for last year. But there is here a hidden danger. With the banning of raw and semi-tanned hides by Argentina and Brazil, the European demand for raw hides has increased fast. Exports of wet blue hides from the State have increased from 8.8 million kg. last year to 15 million kg. this year and there is a similar jump in EI hides. This is inhibiting the growth (and export) of the products of finished leather industry and also endangers the future of the hundreds of small tanneries in the villages. Hence the Leather Export Promoting Council has asked the government to ban the export of wet blue hides and levy an export duty of 10 per cent on those and EI hides. The government is not willing to act quickly, though it will be acting on the Sitaramiah Committee report on exports of finished leather and leather goods. In the meanwhile the financial aid and assistance to help tanners to switch over the finished leather andleather goods, including import by STC of the needed machinery referred to in Vol. II No. 9 should be acted upon

Standard Gazel :

In November the Standard Gazel car was released in Madras. The new features of the car relate to the front grille, the front and rear bumper, the seats and improved doors. Against Standard Motor Products' installed capacity of 3,500 cars and 1,000 trucks, the January production was 100 and by 1974 the annual production will be 2,000 cars at the price of Rs. 22,120 per car. Quality production of cars is now a priority of the Country and the Standard Gazel's quality performance will now be tested.

TI Cycles :

The Ambattur factory of TI chains unit is being expanded at the cost of Rs. 1 crore which will double its industrial chain production and increase its cycle chain production by 30 per cent. By mid year the expansion will be in full operation leading to increased exports of cycle chains to the USA and South East Asian countries. The value of current exports is Rs. 14 lakhs and this will increase in the years ahead. The firm has also established in Malaysia a joint unit for the manufacture of ancillary, auto products and chains, which will enable the company to meet the increasing domestic demand and meet the rising export needs.

Textool :

The annual report of this engineering company that the State Government has taken over shows slow improvement in performance. Through two years efforts the total losses have been reduced from Rs. 206 lakhs to Rs. 126 lakhs as on 30 April, 1972. Increase in production and sales in the three major lines registered a 30 and 40 per cent increase. The development of new products, and a programme of diversification are getting under way. The new machines, produced include arc furnace and bar turning machine. The equipment of the unit however, is run down and until the losses are paid back, the modernisation programme which is rather urgently needed cannot be undertaken.

Small Industry :

SIDCO's annual report records five useful developments in its second year 1970-71. It procured and distributed to the small units iron and steel valued at Rs. 379 lakhs and mutton fallow and caustic soda worth Rs. 43 lakhs. 165 entrepreneurs have been assisted in the purchase of Rs. 84 lakh machines. It has also launched the employment scheme for 46 technicians. Workshops on a hire purchase basis have been constructed at Ambattur (17), for cycle ancillaries at Ambattur (50) and plans have been finalised for artisan sheds at Madurai, an export oriented functional estate at Ooty, a multi purpose estate at Tiruvarur and a textile complex at Coimbatore. Finally a useful set of studies are underway for the development of chemical complexes around Madras, Mettur, Tuticorin, Coimbatore and Neyveli and in the growing area of electronics. In view of the machinery available and the availability of some of the raw materials like Titanium ruffle from Travancore Chemicals and nitro cellulose cotton from the State units, the paint industry is being expanded and new units are being planned in the State. The salt industry in Tuticorin has suffered Rs. 5 lakhs damage as a result of heavy rains in November in the area. There is need for a rehabilitation programme for the small salt manufacturers and preventive efforts to avoid future losses in this important industry. With the power cut and the changing excise and tariff duties and the non-availability of hard coke, the pump industry in the State and other areas are facing serious hardships. There is need for an early enquiry into the precise problems faced by this small scale sector, perhaps by the Union and State Planning Commissions in order to plan ameliorative action. Handloom weavers are in serious difficulties as reported in Vol. II Nos. 10 and 11 of the Bulletin and in some areas like Coimbatore, strikes and demonstrations have been organised. The decision to reserve coloured sarees and some other items for the handloom sector announced by the Union Government in mid November is a useful palliative but long term action is needed along lines set forth in the earlier issues. A cooperative paper mill at a cost of Rs. 10 crores is to be established at Pugalur in Tiruchirapalli district. The Union Government's clearance and release of the small foreign exchange for the plant makes possible a start on construction of the plant next month.

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IV. Education, Science & Health

Urnest in Educational Institutions.

November registered continuing strikes, gheraoes, violence to University property and Vice Chancellors and personnel, stoning and burning of buses and railway trains, stations and property and clashes with the police in 19 educational institutions in 10 States and 1 Union Territory—Andhra Pradesh, Assam, Delhi, Gujarat, Haryana, Kerala, Mysore, Tamil Nadu, West Bengal, Punjab and UP. The causes are the same as those analysed in the last issue of the Bulletin. Political causes were the factor for the violence and unrest in Andhra Pradesh, Assam, Tamil Nadu, West Bengal and UP. Differences with transport authorities sparked the disturbances in Kerala and Delhi. The coincidence of the strike with the start of the examination was noted in West Bengal and Andhra. Teachers and managements were responsible for the closing down of educational institutions in Kerala, Haryana and Punjab. Agitation against the vice chancellor, the syndicate, etc. were the causes in UP, Orissa and Kerala The need for a diagnosis of this situation and preparation of all concerned—the students, staff, the university, the governmental and political leaders and parents—for rather important and far reaching remedial action outlined in the last issue is once more reiterated. Meanwhile the Nagpur University is in the process of framing rules and regulations for a scheme to insure invigilators against assault and injury at examination centres. During the examination period, at six centres in the city, invigilators suffered threats and injury and the examinations were cancelled. The vice chancellor has announced the insurance scheme to the teachers. A more important development is the establishment by the Madhya Pradesh government of a 31 member State level committee to deal with the problems of educational unrest and disruption. The committee has 22 student representatives plus members of the eight universities. The diagosis of the situation and the recommendations for remedial action by the committee should be followed with particular interest by all States and universities in the Country. This initiative of the young State Minister of Education, Mr. Arjun Singh has implications for the entire educational system (see Vol. II No. 11 of the Bulletin).

Educational Reform :

The Vice-Chancellor of Madras University who has expressed support for the establishment of autonomous colleges in the State (see last issue of the Bulletin) has at the November meeting of the Senate taken further initiatives to guide the reform movement outlined by the Task Force. He has called for an early decision by the government on the total period of schooling—the shift from 11 years to 10 years recommended by the Task Force. On the basis of that decision, it will be possible for the University to decide on the 2 year or 1 year intermediate course and the degree course and it will be possible for the colleges to plan the finances and manpower required for the changes. He has also raised the question of increasing numbers at the University level and its effects on quality of teaching and learning. The University now has 158 affiliated colleges and each college continues to increase its enrolment. The question of optimum in relation to management and teaching efficiency is raised in this context. He also made an appeal to the academic community to concentrate on learning and to political leaders not to involve students in political agitations and controversies. The University is also considering examination reform parallel to the revision and upgrading in

40 subject fields that have been undertaken. It is now necessary, the Vice Chancellor points out, to modify both the pattern of questions for the various courses of study and the mode of evaluation, using as a base the semester system and the internal evaluation techniques in use in professional education in the University. A two year post graduate diploma course in Accountancy, Auditing and Taxation laws has been recommended by the academic council and Syndicate to the Senate—a course which is needed to improve commerce education in the University and provide professional members opportunities for updating their qualifications and qualifying themselves for promotion.

The diagnosis of the education system by the Bangalore November seminar on social change highlighted the fact that education has not decreased the social gap between the educated and uneducated. The number of educational institutions but also the number of illiterates have increased in our 25 years of independence. The educated elite is not interested in promoting social change as that might weaken its privileged position. It is true that while the present system does not promote change, is itself an abettor of stagnation in the social order and is a stagnant element, the explosive potential of education as the agent of social change should not be overlooked, as it was at the seminar. One major factor in this depressing situation it was pointed out is the teacher who is the key, and who is recruited on other than quality and merit considerations. Against this reality the Mysore seminar in October on correspondence education came to some important conclusions for action. Correspondence education is an effective agent for change in the quality and dimension of higher education and through its feedback into the regular university courses can become an important reform agent. If this is true there should be a more equitable distribution of resources between in-college and out-of-college education courses, as recommended by the Task Force in this State, which visualises an equal number of students in the two streams by the end of the Sixth Plan. In this connection the decision of the Union Government to develop 20 more AIR stations during the Fifth Plan to cover the rural population can be a fillip to the correspondence education programme in both urban and rural areas. 12 auxiliary stations including the one at Coimbatore will become full fledged programme originating stations before the end of the Fourth Plan. Eight stations that will be upgraded during the Fifth Plan include the ones at Cuddapa and Tirunelveli. Further horizons are opened by the television plan of the Country, 80 per cent of the Country being covered by it, and this will become a powerful medium for out-of-school and out-of-college education. The detailed recommendations of the correspondence education seminar for effective use of radio instruction, the provision of basic taxes, the employment of a core staff of high quality with in service training facilities, the development of study centres with adequate library facilities, and the strict enforcement of the student response system support the overall thesis about the role of out-of-college education. It endorsed the proposal for the establishment of a National Institute for Research and Coordination by the UGC to develop new and improved programme and act as the accreditation agency. If such a broad based growing out-of-college programme were developed, then the need for following a policy of selective admission for regular full time students in colleges as recommended by the Kothari Commission, and the Task Force for this State would not involve discrimination against any one, as pointed out by the Union Planning

Commission member at the Delhi seminar on higher education. Such a selective admission has now become necessary to bring the quantitative expansion to the manageable rate and to give secondary and primary education the financial resources they need. In fact the Director of the Indian Institute of Advanced Study at the seminar pointed out that the right to education refers to basic skills–and not to higher education, which is a privilege and which must be earned. This means that secondary education must be rapidly vocationalised, as it would be terminal point for the majority—again part of the Tamil Nadu frame established by the Task Force. From this point of view the decision of the annual national conference of the boards of secondary education to set up a committee to recommend guidelines for establishing autonomous secondary schools is a move in the right direction. Andhra Pradesh has already acted in this matter. Vocationalisation of secondary schools relates to local, particularistic agricultural and industrial conditions. Autonomous institutions will be able to develop their curricula and technologies in relation to local conditions. The memorandum of the Fifth Plan issued by a group of economists under the sponsorship of the Gandhi Peace Foundation makes the same point in regard to education in calling for a serious operational exercise in manpower planning so that education can respond to the needs of our labour surplus economy. One technical suggestion for education reform made by the Vice Chancellor of the Bombay University is that subjects like bio-chemistry and bio-physics now being taught at the post graduate level should be part of the under graduate curriculum as in other countries. Also the science curriculum should cater to two streams—the perspective science specialists and those entering professional streams. The educational reform movement in the Country is gathering momentum, the main elements now command general agreement and the time for putting them into effect by the university and educational authorities is now. The one missing element is student participation in this movement and that can and must be ensured as is being done in Madhya Pradesh.

Science :

The Tamil Nadu Agricultural University has established a communications centre for the speedy discrimination of scientific information to farmers and to feed back to the University the problems of the farmers. The new knowledge and new technology which flow out of purposeful research will tend to flow into the class room and to the large illiterate or semi-literate peasant masses calling for special techniques of communication. The centre is developing a studio so that teachers, researchers and extension specialists can provide effective agricultural programmes for the AIR. ISRO's new division, "remote sensing and meteorological application division" at Ahmedabad with branches at Delhi for the Northern, Hyderabad for the Southern and Calcutta for the Eastern regions is an important development in the natural resources management of the Country. Its multi-disciplinary remote sensing programme will help delineate shores, map coastal areas and locate new exploitable fishing grounds. It will also identify major agricultural crops, map disease and insect infections of forests and locate areas of high potential forest fire. It can identify areas susceptible to erosion and sources of water supply. It can help in crop acreage estimation and yield forecasting and indicate the location of radio active minerals, and mineral resources generally. It will also help the Country's link with the US Skylab project. The Division will thus be a major instrument both in multi disciplinary science research and our agri-

cultural and mineral development. The Defence Research Exhibition at Asia 72 for the first time brings together the nature and results of the R & D work of the 12 laboratories under Defence Ministry. The work relates for the main part to aeronautics, missiles and under water technology.

The CSIR was moved in November to the Union Ministry of Science and Technology where it belongs. With the NCST located there and deciding on overall scientific research planning and priorities, CSIR will be able to execute effectively the NCST decisions and concentrate on its main function of acting as the R & D instrument for medium and small industries which it has begun doing. In turn powers are being decentralised to individual laboratories with delegation all along line, the Director of each institution and the committee of division heads being responsible for all scientific work in the institution. It is now over a year and a half since the Sarkar Committee reported along these lines and over a year since these recommendations were discussed and approved by the Director General and the Directors. The time lag in putting these agreed recommendations into effect is really inexcusable. Another problem referred to in Vol. II No. 7 of the Bulletin is the functioning of DCTD both in making available information and data on the latest industrial developments and scrutinising foreign collaboration agreements. With the recognised and effective functioning of CSIR (and ICAR and DAC), it is necessary that DGTD be also reorganised to join with these bodies. Its location in the Ministry of Science and Technology (instead in the Ministry of Industrial Development) and its being headed by a high level research scientist are clearly indicated. Too much of our important institutions are dependent on accidents and personal arrangements. Today Industrial Development and Science Technology are under the same Ministry. Yesterday they were not and tomorrow they may not be. It is important to institutionalise these arrangements on a rational basis. The question of R & D and the private sector referred to in Vol. II No. 7 of the Bulletin is once more to the fore. The Union Ministry of Industrial Development, on the basis of the studies made by CSIR, NCST, etc., referred to, is proposing to make inplant R & D obligatory in all large industrial undertakings in the heavy investment and core sector, while cooperative research associations with the CSIR laboratories grouped under chemistry, engineering, etc. will aid small and medium industries. The present situation is that the R & D effort of the large industries is inadequate and ineffective. There has been some import substitution by indigenous raw materials, some product development and some development of designs. However, too much of our technology continues not only to be imported but also continues to rely on foreign sources for their use and adaptation. There is little of what Japan does in what they call "pinching technology", where twice or thrice the resources and efforts are expended to make the imported technology completely indigenous. This is what is needed in India and the decision now is to make, for large industries—both Indian owned and particularly those with foreign collaboration—an obligatory R&D infrastructure to absorb, develop and improve imported technology, develop new technologies, processes and products. There will be resistance from foreign collaboration companies for technical and policy reasons. But this double approach —in plant R & D for all large houses, cooperative research with the aid of CSIR for small and medium industries—should now become part of the licensing policy and the procedures for approval of foreign collaboration agreements. In addition government subsidies and concessions to

the large firms' R & D programme should be enlarged and regularised.

Health :

The Tamil Nadu State Medical conference in November at Madurai called attention to the need to ensure a more even distribution of doctors as between urban (with a ratio of 1 doctor to 1,400 persons) and rural areas (with 1: 20,000 ratio) The Task Force on Health reports the existence of 379 primary health centres and 2,700 sub centres. 352 of the health centres and sub-centres according to the conference do not have any doctor attached for the known reasons of absence of minimum living facilities, isolation and absence of equipment and drugs plus group politics. The suggestion at the conference that after 1978 there will be a glut of doctors in the State and after 1982 in the Country and that there are 20,000 unemployed doctors now—all relate to questions of what does the employment of doctors mean, what of the servicing of the neglected countryside? On the peasant doctor scheme, there is general agreement between the State Government, the Madurai conference and the Task Force in not applying the scheme as conceived by the Union Government to this State. In place, as the State Minister of Health points out, in Tamil Nadu each block will be covered by 20 health units—allopathic, indigenous and homeopathic—so that each villager will have some system available to him within a 5 mile radius. It is proposed to start this scheme with 4 blocks as a pilot centre. Sakthi Sugars and its enterprising chairman established in November at Appakudal a Voluntary Health Service Project to serve 8 blocks around the centre. The project will start with 2 blocks and work on the cooperative principle. Regular and continuous medical treatment is given to each family in the village through mini-centres and which also runs a referral service to the main centre. Families with an income of Rs. 100 or less pay 50 paise per month, those with incomes of Rs. 100 to Rs. 199 per month pay 1 Rupee per month and those with Rs. 200 or above pay ½ per cent of the annual income. This is the first extension of VHS to a rural area in the interior of the State and its operation will be watched with interest (see Vol. 1 No. 10 of the Bulletin). The government's decision to increase the number of Kuzhanthaigal Kappagams from the current 3,000 to 10,000 during the next 3 years discussed with the Panchayat Development Consultative Committee is in line with the recommendations of the Task Forces on Health and Education. The two Task Forces recommended that by the end of the Sixth Plan (1983-84) the Kappagams should be expanded to 12,500 (Health T F) and 15,000 (Education TF). These centres will provide nutrition, health and vaccination and some education exercises to pre-school children in the age group (0-5). In the field of family planning, the Thanjavur district programme in this State (see Vol. II No. 2 of the Bulletin) received the special national award for innovative approaches along with Ernakulam in Kerala State at the Hyderabad meeting of the Central Family Planning Council. On this occasion, the Prime Minister communicated to all Chief Ministers the importance and urgency of the family planning effort of the Country and has asked that the administrative machinery in each State be toned up to achieve the targets. The whole development and anti poverty effort of the Country are dependent on the parallel success of the family planning programme and so the shortfalls in achievement of the various targets are serious in relation to the stakes involved. It is good that the Prime Minister has come out clearly and unambiguously on this matter and has given the leadership that is needed. The study recently published by the Indian scholars

of the National Institute of Nutrition, Hyderabad, that poor diets limit fertility is statistically sound but the statistics themselves are open to question and the problem facing the Country is restraint in all directions. The conclusion of the study is the basis for our action plan—package programmes which involve mutually reinforcing components of nutrition, health, education and family planning activities.

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V. Employment

It will be noted that there are no official figures of the total number of unemployed for the Country or by State since the first Draft Fourth Plan published estimates in 1966. The official information available is the number of job seekers registered in employment exchanges and on this basis it is possible to update the figures analysed in Vol. II No. 10 of the Bulletin. The number of unemployed on the live registers is climbing steadily and alarmingly. It was 40.69 lakhs in December 1970, 51 lakhs in December 1971, 57 lakhs in June 1972, and 64.57 lakhs in September 1972. The total unemployed today is somewhere between 140 to 200 lakhs and under employment which has not been quantified is at about an equivalent level. Using the employment exchanges data, Tamil Nadu's job seekers total 4,93,099 in June 1972, being the fourth highest State, with West Bengal, Uttar Pradesh and Bihar being higher. Two meetings in Oct. and Nov. discussed the problem of unemployment and under employment. The seminar on unemployment and self employment called on the government to shape its economic policy in relation to fiscal, monetary and foreign exchange instruments to combat unemployment and under employment, while at the same time accelerating the rate of production. With the general agreement that in all sectors—agriculture, industry and services—the technology employed should involve intensive use of labour and minimum use of capital, the problem is to translate the principle into programmes and not create false choices between growth and employment. The seminar made an important point that while the governmental programmes-SFDA, MFAL, DPAP as well as the infrastructural and core industries could have a stimulating and catalysing effect in improving raw materials availability, infrastructure and incomes, the solution to the problem of unemployment is in energising the private sector. If this is true, then it must be admitted that not enough thought has been given to this important issue and policies and programmes have not been devised in relation to it. The government's crash employment programmes should be rationalised, expanded and placed on a long term footing, particularly in relation to backward regions and weaker sections of society. Employment in the rural areas will be aided by effective land reform, massive and timely credit and technical aid to the small farmer, industrialist and operator. The machinery at all levels for generating employment and monitoring employment schemes is important. On this, the second meeting of State manpower officers, the setting up of a State manpower programme under the chairmanship of the Chief Minister, a State Manpower Planning Board under the chief secretary and an adequately staffed State Manpower directorate in each State were proposed. This kind of machinery in Tamil Nadu has also

been recommended by the Task Force on human resources and should be put into effect now. Finally there is also the crying problem of educated unemployment. To bring up to date the statistics analysed in Vol. II Nos. 9, 10 and 12 of the 26 lakhs educated unemployed announced by the Union Government as of September 1972, Tamil Nadu's share is 4,97,468, being an increase of 33,821 since June. Of these job seekers 2,711 were engineers, 4,196 diploma holders and 16,554 were technically qualified personnel. Here there are three actions called for. The first is to coordinate the conclusions of the manpower planners at the State and if possible district levels, when those are available, with those of educational planners, so that technical and higher education can be made to conform to manpower forecasts. Second there is need to reform the education system so that it is work based and skill purveying at every level. Third the employment and self employment programmes promised by government should be translated into action. Once more at the October seminar, the Minister of Industrial Development repeated the guarantee that all graduate engineers and first class science graduates at the Masters level and above will be employed within two years. This guarantee refers to orientation training and finance to young engineers to start small industries, to seek capital to young entrepreneurs, to the employment of primary teachers to be employed by the Ministry of Education, to rural engineering surveys by the Ministry of Power and Engineering, to agro service centres under the Ministry of Agriculture and to credit from nationalised banks. The Bulletin since its founding two years ago has been recording and repeating these promises which are still to be acted upon—not as trickles and pilots but in as massive a manner as that of the scope of educated unemployment.

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VI. Other News

Madras Christian College:

The college celebrated its College Day on November 9. The college which is one of the most advanced academically in the State recorded a year of steady progress. Its administration has been modernised, the posts of deans created to promote academic development, with the staff association functioning as a staff council. It has the largest number of post graduate departments and is now involved in UGC's COSIP programme. Students are fully involved in lively extra curricular activities but the report appeals for concentration on academic and learning involvement on the part of the students. The college has a well developed rural development programme centred around a very good farm with rice cultivation, dairy, poultry, piggery in which students are involved. The academic performance of the college for the year is good. Dr. Malcolm S. Adiseshiah delivered the College Day Address on what the college can do to meet the educational crisis in the State in light of its economic perspective.

P & T Week:

November 13-19 was observed as the Post and Telegraph Week in the Country. It was an occasion when the public began to understand the enormous national work being executed by this organisation. In the 25 years of our independence, our post offices have increased from 22,240 to 1,09,059, telegraph offices from 3,324 to to 12,000 and telephone with 321 exchanges and 1 lakh connections to 3,900 exchanges

with 12 lakh connections. 54 per cent of our villages receive mail daily and we have one post office for every 5,000 people. During the year 6.5 million postal articles were handled, together with 182.8 million registered articles—that is 11.8 articles per head of population. 94.5 million money orders of a total value of Rs. 610 crores and saving bank deposits of Rs. 973.7 crores in 20.6 lakh accounts were recorded. Dr. Malcolm S. Adiseshiah was the Chief Guest at the Adyar Post office celebration and took the opportunity to outline the industrial, commercial, national and international services rendered by the Department to every one in the Country. Speaking for the Institute, a warm tribute was paid to the staff of the Adyar post office who in two years of the Institute's existence serviced its burdensome domestic and foreign mail in such a manner that there is not one complaint to make. The week was also an occasion to popularise the PIN CODE, which for this Institute area 600020.

Library Week :

The week 14–21 was celebrated by the Local Library Association as library week in Madras as part of All India celebrations. There were lectures, films, and an impressive exhibition of books mainly in Tamil by the publishers for readers of all ages and classes, children and adults, new literates and sophisticated readers– organised by LLA. This was an occasion when the importance to the common man of the public library was stressed and its lacunal and defects frankly analysed. For the State, the Task Force on Education has come out with a library Plan for Rs. 6 crores. Dr. Malcolm S. Adiseshiah delivered the valedictory address on the closing day of the week and indicated the directions in which the public library movement should develop in the State in accordance with the Unesco guidelines and our local needs and potential.

Central Electro-Chemical Research Institute :

The CSIR Central Electro-Chemical Research Laboratory at Karaikudi whose work was analysed in Vol. II Nos. 5 and 10 of the Bulletin organised its tenth annual seminar on Electro-Chemistry. Karaikudi which has developed into an educational and scientific complex, thanks to the pioneering support of Dr. Alagappa Chettiar, is a good place for the laboratory--one of the few located in a rural backward area. The laboratory has developed into an important R & D centre with close links with the electro-chemical industry in the State and the Country. The Task Force on Industry has recommended establishing during the Fifth Plan an electro-chemical based industry in the area to tie in with the R & D resources of the laboratory. The laboratory has so far released 44 industrial processes to 72 industrial units in the Country, has 32 processes which are ready for commercial exploitaton and operates 4 pilot plants— the most important being the one for percholrates and the other for magnesium. It therefore provided a sound base for the seminar attended by some 200 specialists from all over the Country and a few scientists from other countries. The seminar was inaugurated by Dr. Malcolm S. Adiseshiah who pointed to some gaps in the Country's electro-machinery processes that need to be filled and called for further concentration on the innovation aspects in the R & D effort in electro-chemistry. The conclusions of the seminar called attention to the R & D work in progress and emphasised the need to test the results on a scale which make them viable as industrial processes and products. The seminar and laboratory leadership is of sound and high scientific quality and the participation of industry in its work was highlighted at the industrial forum with which the seminar concluded.

1973 Monthly MIDS Seminar Programme:

The 1973 Madras Institute of Development Studies monthly seminar established by the November seminar and recommended by the Advisory Committee of the Institute is as follows:

Name	Subject	Residence
1. C. M. Abraham	Sociology	Madras
2. M. S. Adiseshiah	Economics	Madras
3. M. S. Appa Rao	Business Management	Madras
4. M. V. Arunachalam	Business Management	Madras
5. B. N. Chinnappa	Statistics	Madras
6. S. V. Chittibabu	Education	Madras
7. A. Devasia	Economics	Madras
8. A. Hemalavathy	Demography	Madras
9. A. Joshua	Education	Madras
10. K. Jhaveri	Human Science	Pondicherry
11. S. Nityananda	Social Science	Madras
12. C. T. Kurien	Economics	Tambaram
13. J. P. Naik	Education	Delhi
14. T. V Natarajan	Political Science	Madras
15. K. K. Pillay	Social Science	Madras
16. M. Thomas	Human Science	Madras
17. C. D. Rajeswaran	Economics	Madras
18. A. Ramachandran	Technology	Madras
19. J. Ramachandran	Political Science	Madras
20. A. Ramakrishnan	Science	Madras
21. S. Pothan	Law	Madras
22. S. Ramanathan	Sociology	Madras
23. R. Ramanujam	Economics	Madras
24. M. N. Rao	Business Management	Madras
25. T. S. Sadasivan	Science	Madras
26. M. R. Santhanam	Economics	Madras
27. S. Sampath	Technology	Madras
28. V. Shanmugasundaram	Economics	Madras
29. C. Subramaniam	Planning	Delhi
30. T. S. Venkataswami	Economics	Madras
31. R. Venkatraman	Planning	Madras
32. M. Mezhukanal	Human Science	Madras
33. T. S. Narayanaswamy	Journalism	Madras

II. Programme:

Theme: The Perspective Plan for Tamil Nadu

Subject	*Author*	*Chairman*	*Date*
Framework of a Plan to abolish poverty	C.T. Kurien	M.S. Appa Rao	Thursday 25th January 1973
Unemployment and disparities in employment opportunities	Mrs. Chinnappa	C.D. Rajeswaran	Thursday 22nd February 1973
Large and medium industries	S. Sampath	A. Ramakrishnan	Thursday 29th March 1973
Education	Miss K. Jhaveri	M.N. Rao	Thursday 26th April 1973
	NO SEMINAR		May 1973
Power	M.V. Arunachalam	A. Ramachandran	Thursday 28th June 1973
Agriculture	T. Venkataswamy	R. Ramanujam	Thursday 26th July 1973
Animal Husbandry	A. Devasia	M. Thomas	Thursday 30th August 1973
Examination Reform	S.V. Chittibabu	J. Ramachandran	Thursday 27th September 1973
Social Change	C.M. Abraham	K.K. Pillay	Friday 26th October 1973 (Thursday 25th is a holiday)
Small Industries	T.V. Natarajan	S. Ramanathan	Thursday 29th November 1973
Capital formation and resource mobilisation	V. Shanmugasundram	R. Venkataraman	Thursday 27th December 1973
Tamil Nadu Economy 1971-72	R. Ramanujam	Mrs. Chinnappa	Thursday 31st January 1974

SECOND MEETING OF THE HEADS OF DPARTMENT OF ECONOMICS OF SOUTHERN UNIVERSITIES

The Second meeting of the heads of departments of Economics of Southern Universities was held at the Madras Institute of Development Studies on Friday, December 15, and Saturday, December 16.

I. *Attendance*

The meeting was attended by :

Dr. V. Anantharaman,
Prof. & Head of the Department of Economics,
Indian Institute of Technology,
Guindy, Madras-600036.

Miss Gajalakshmi,
Prof. & Head of the Department of Economics,
University of Madurai,
Madurai-2.

Dr. G. T. Huchappa,
Prof. & Head of the *Department of* Economics,
University of Mysore,
Manasa Gangotri, Mysore-6.

Dr. D. L. Narayana,
Prof. & Head of the Department of Economics,
Sri Venkateswara University College,
Tirupati, Andhra Pradesh.

Dr. Gautam Mathur,
Prof. & Head of the Department of Economics,
Osmania University,
Hyderabad-7.

Prof. C. B. Tigadi,
Head of the Department of Economics,
Karnatak University,
Dharwar-3, Mysore.

Mr. C. Narayanan, Principal & Chairman,
P. G. Board of Economics,
Guruvayurappan College,
Calicut-14.

Dr. V. Shanmugasundaram,
Prof. & Head of the Department of Economics,
University of Madras,
Chepauk, Madras-600005.

Dr. V. Rajagopalan,
Prof. & Head of the Department of Economics,
Tamil Nadu Agricultural University,
Coimbatore.

Dr. B. Sarveswara Rao,
Prof. & Head of the Department of Economics,
Andhra University,
Waltair, Andhra Pradesh.

Dr. C. T. Kurien,
Professor of Economics,
Madras Christian College,
Tambaram, Madras-600059.

Dr. Krishnan,
Prof. & Head of the Department of Economics,
Kerala University, Kariavattom P.O.,
Trivandrum, Kerala.

Mr. R. Subramanian,
Head of the Department of Research,
Gandhigram Rural Institute,
Gandhigram P.O., Madurai Dt.

Dr. M. S. Adiseshiah, Director & Chairman,
Madras Institute of Development Studies,
74, Second Main Road, Gandhinagar,
Adyar, Madras-600020.

Apologies for absence : Dr. A. Ramaswami,
Prof. & Head of the Department of Economics,
Annamalai University,
Annamalainagar, Chidambaram, South Arcot Dt.

Absent : Dr. Venkatagiri Gowda,
Prof & Head of the Department of Economics,
Bangalore University, Bangalore-9.

2. *Evaluation of the Second Workshop (Document 2HD/3):*

After a wide ranging discussion of Document 2HD/3 presented by Dr. B. Sarveswara Rao, it was agreed that:

(a) The two workshops of Research Methodology had filled an important gap in University research in the South, had broken the isolation between the research scholars and had given a new interest in methodology and emphasised its importance for sound research.

(b) The eight conclusions reflecting some of the limitations of the Second Workshop set forth in the Document 2HD/3 were generally accepted with particular reference to the problem of linguistic and logical skills of the participants and the grounding in theory.

(c) The mathematical and statistical course was a useful innovation, though not all the participants were prepared for it.

(d) The problem of follow-up of the results of the Workshop should be attended to particularly by the Heads of the Departments of the participating Universities.

(e) The diffusion of the results of the two Workshops would be ensured by the publication of the Madras Institute of Development Studies of a (i) a Guide to Research in Economics, edited by Dr. C. T. Kurien and (ii) Statistics and Mathematics in Economics, by Dr. M. Rajagopala Rao and M. Lakshmana Rao. It might also help, if future Workshop papers were circulated to all participating Universities.

(f) The building in of methodology into economics research programmes is essential.

(g) An important facility needed is for some kind of refresher training for the guides to economics research scholars who, in a sense, hold the key to the future of the economics research.

(h) Grateful thanks be expressed to Dr. B. Sarveswara Rao, Director of the Workshop, the staff of the Department of Economics and Statistics of the Andhra University and the Vice-Chancellor for all the help so unsparingly given for the successful functioning of the Workshop.

(i) Grateful thanks be also expressed to the Indian Council of Social Science Research for sponsoring and financing the Workshop and for the additional administrative arrangements in the way of pocket money and a book allowance for participants that had been made.

3. *A Methodology Course in M. Litt, M. Phil., Ph. D. Programme:*

Document No. 2HD/2 introduced by Dr. V. Shanmugasundaram raised the question of designing of the economics research programme in the Universities through M. Phil., M. Litt. and Ph. D. courses.

Document No. 2HD/21 introduced by Dr. C. T. Kurien proposed building in an individually tailored methodology programme for every research degree involving a 5 point course content and the related organisational problems.

In an extensive exchange of views on the two proposals, the plan of the Centre of Development Studies, Kerala to introduce a one year M. Phil. course as the Regional Centre for the Jawaharlal Nehru University and the experience of the Andhra University with its research organisation under which a first year pre-research programme is followed up by a further one year leading to M. Phil. or two years leading to the Ph. D. were noted with interest.

It was agreed that :

(i) a methodology course should be introduced in all economics research programmes in order to sharpen and improve research and reduce the time period which now ranges from four to six years for the Ph. D. degree.

(ii) Two types of M.Phil. programmes are seen necessary. One would be a one year programme mainly for economics teachers particularly in the affiliated college to equip them for post-graduate work. Such a course could also be tailored for public sector managers, planners, administrators, etc. The second type of M. Phil. course would be research oriented and directed towards the dissertation and thesis.

(iii) The methodology course in all research programmes should cover the following content :

(a) To introduce the students to the methods of theoretical discussion ;

(b) To give them training in the techniques of professional writing;

(c) To provide them the opportunity to do extensive and intensive reading in the area of their specialisation;

(d) To acquaint them with the general methods of scientific and inter-disciplinary research;

(e) To give them a course in basic quantitative methods:

(iv) The form of instruction or self study could vary with the University and staff availabilities.

(v) The time period for such a course is the equivalent of six months which could be spread over for nine months or a year or could be completed within the six months period.

(vi) The problem of grouping together for purposes of the course the scholars scattered in the affiliated colleges in some of the Universities demands special attention.

4. A Seminar for Supervisors of Economics Research Scholars :

On the basis of the discussion of Document 2 HD/4 proposing a two week refresher course for guides to economics research scholars, introduced by Dr. Malcolm S. Adiseshiah, it was agreed that:

1. a seminar rather than a refresher course should be organised,

2. the purpose of the seminar would be to

   (a) discuss and develop an economics research methodology course or courses,

   (b) identify and exchange views on gaps in current research and the developing areas of knowledge in economics, and

   (c) identify and assist in the problems faced by the supervisors and guides.

3. The participants in the seminar would be supervisors and guides of the economics research programme.

4. The seminar would be for two weeks from May 20th to June 2nd, 1973, broken into two one week session, to enable some Heads of Departments to participate for one week and be replaced by one of their colleagues for the other week.

5. The seminar will be held at Karnatak University, Department of Economics, in response to the kind invitation from the Vice-Chancellor of the University.

6. The basic documents for the seminar would be

(a) a proposed methodology course to be drafted by Prof. Krishnan with the assistance of Prof. Sarveswara Rao and Prof. Kurien,

(b) gaps in the current research and developing new areas of knowledge by Prof. V. Shanmugasundaram, Prof. Gautam Mathur and Prof. Gajalakshmi,

(c) problems of and means of assistance to supervisors and guides by Prof. Anantharaman on the basis of a written consultation with the Heads of fourteen participating University Departments.

7. 3 or 4 specialists to be invited to the seminar for periods ranging from two to five days each inter alia among the following:

Dr. Dantwalla, Dr. Lakdawala and Miss Ranadive, all from the Bombay University.

Prof. Kirit Parikh from the Indian Statistical Institute, Calcutta.

Dr. Naqvi from the University of Delhi.

Dr. K. N. Raj, Centre for Development Studies, Trivandrum.

Mr. A. K. Das Gupta, Central Pay Commission, Delhi.

Prof. Parthasarathy, Andhra University.

Dr. S. Charavarti, Dr. B. Minhas from the Planning Commission, New Delhi.

Mr. Subramaniaswami, Professor of Economics, Indian Institute of Technology, New Delhi.

Dr. Mathew Kurien, Indian School of Social Science, Trivandrum.

Mr. Paresh Chattopadhyaya, Indian Institute of Management.

Mr. S. K. Goyal, Indian Institute of Public Administration, New Delhi.

8. The distribution of the participants proposed in Document 2HD/4 be noted.

9. The Indian Council of Social Science Research be requested to sponsor and finance the Seminar.

5. *Exchange of views on problems and prospects of economics research in the Southern Universities:*

(1) *Calicut University* (Doc. 2HD/9): It was noted that at present there is no research department in the University, a research guide has been appointed by the University, and plans are under way to start research in some of the applied fields. The need to establish a university department in order to guide the post-graduate departments of colleges was noted. The Centre for Development Studies of Trivandrum could be of use in developing research in Calicut University.

(2) *IIT Madras* (Doc. 2HD/10): The varied programmes of research at the M. Tech. and Ph.D. levels were noted. A very interesting and potentially important inter-disciplinary social survey research cell is developing in the Institute which could be of help in inter-disciplinary and trans-disciplinary research. The Institute could particularly help in the development of technological economists.

(3) *Karnatak University* (Doc. 2HD/11): As UGC or University Research Fellowships are granted to I Class M.As., Economics students who are not given I Classes easily are handicapped. This is a general problem for all Universities where a good second class should be considered as eligible for research fellowships. The difficulty of research staff and scholars in obtaining access to official documentation necessary for research was underlined. This too is general to all Universities. The establishment of an Advanced Economics

Research Cell in the University with the financial help of the government was noted.

(4) *Kerala University* (Doc. 2HD/12): The Centre for development studies in Trivandrum sponsored and financed by the government of Kerala will soon have its buildings ready at a cost of Rs. 10 lakhs, which can house 1,50,000 volumes and research facilities and quarters for staff and research scholars. The Centre which is an autonomous body has close and mutually reinforcing relation with Kerala University. Its governing body now has the Vice-Chancellor as chairman and two members of the Syndicate as well as other specialists from outside Kerala. It has started with six fellows who also lecture in the University and guide research students. The staff of the economics department of the University are also on the staff of the Centre, the head of the Department being its Director. The Centre is engaged in applied research, its main subjects now being, nutrition, low cost housing, income and wealth distribution, land utilisation, economics of education and preliminary studies on district planning and labour-cum-development banking. One of the problems engaging the Centre is the nature of financial support to the research students to supplement the limited financial grants of the UGC and the University. The Centre, as noted earlier, is the regional branch of the Jawaharlal Nehru University and will have some of its staff on the governing body.

(5) *Madras University* (Doc. 2HD/13): The University department has a staff which can oversee 24 research scholars. Through various financial arrangements with grant giving bodies it has been possible for the research stipends to be raised to attractive levels. The research programme is constantly being diversified and the university itself offers theory lectures in 6 subjects to post-graduate students. A post diploma M. A. course has been introduced. The problem common to all universities is the motivation for research on the part of scholars, the best of whom enter income earning employment. Like all universities, the Department faces a serious problem of drop-outs in the research programme. A second problem is the amount of time that is taken by the external (non-Indian) examiners of theses particularly when dealing with specific national problems. This could sometimes amount to 4 to 6 years, in addition to the average 4-6 years for writing the theses.

(6) *Gandhigram* (Doc. 2HD/14): The programme of the Gandigram Rural Institute is centred on an integrated teaching, extension and research dimension in its activities. There is close co-ordination between theory work and small scale industries and rural occupation in the neighbouring areas. The department is working on the development of growth centres.

(7) *Madurai University* (Doc. 2HD/15): Within the 7 years of its existence, the department has graduated one Ph. D., and 8 M. Litts. The specialised areas of study are being increased. The department faces the same problem as others with regard to finance. Part time Ph.D. scholars raise a number of problems with regard to their teaching efficiency, their research time and resources, all of which can be met if adequate facilities are available to them.

(8) *Mysore University* (Doc. 2HD/16): The staff has a combined teaching and research work load which is rather heavy. The administrative problems of the department require simplification of procedures and adiministrative assistance. The trend of decreasing UGC grants to South Indian research scholars needs to be examined and corrected.

(9) *Tami Nadu Agricultural University* (Doc. 2HD/17): The research programme has a theory and field approach. Research scholars work with adequate resources and supervision. In general it was noted that while research in the agricultural economics department in the universities is concerned with field research, the research in agricultural universities is essentially applied researches.

(10) *Andhra University* (Doc. 2HD/5: The two Economics Departments of the University has a total strength of 18 teachers, 7 of whom are working towards their Ph.D. The semester system has been introduced and is functioning well. The Research Fellowship programme is inadequate. Certain new areas of research are developing which include entrepreneurship, urban economics and town planning and economics of health. A general problem applying to all universities is that there is urgent need for strengthening the staff of the Faculties so that every staff member does a continuing programme of research, a research cell might be developed and an adequate administrative and technical assistant staff is provided to every department.

(11) *Venkataswara University* (Doc. 2HD/19): The department has been now established as a separate one after the separation of the Politics and Commerce sections. 8 Ph.D. scholars are now registered. The project work of the department is rapidly increasing. The problems of finance and technical and administrative staff continue to be serious.

(12) *Osmania University* (Doc. 2HD/18): The University College and the 12 constituent colleges have a total staff of 35, ten of whom are located in the Univerity College. The courses at all levels have been revised and updated. 31 students are registered for their M.Litt. and 12 for their Ph.D. The department has the same problems of finance, adequacy of research scholarships and technical and administrative staff as other departments.

On the basis of the above review, the wide variety and richness of the research programmes in the universities together with problems of motivations for taking up research and the financial and administrative stringencies of the Departments were noted. It is therefore recommended that:

(1) the UGC Junior Fellowship and Senior Fellowship stipends of Rs. 300 and Rs. 500 respectively for M.Litt., M.Phil. and Ph.D. scholars be revised in accordance with the present remuneration of associate lecturers and demonstrators and the rising cost of living.

(2) both UGC and the Universities should distribute research scholarships on a fair departmental basis in order to ensure that economics research which is crucial to the Country's development is given its adequate share.

(3) in economics research, scholarships should be available to both first and second class M.A. students in view of the tradition of awarding a limited number of first classes in economics.

(4) the ICSSR and governments be urged to make available official documents quickly to the research staff and scholars of the Universities.

(5) the number of external (non-Indian) examiners for research theses should be reduced as there are today a sufficient number of Indian economists to act as judges.

(6) every department should have a minimum critical staff so that each member can undertake some amount of research.

(7) each Department should have an adequate number of technical assistants and

administrative staff so that the time and resources of the Department is not wasted on administrative and clerical matters.

6. The Economics Text Book Project:

On the basis of the proposal presented by Dr. Malcolm S. Adiseshiah *in Document* 2HD/20 in relation to bringing out an Indian Economics Text Book, it was agreed that:

(a) The approach to the text book should be first clarified using a *double* hypothesis.

(i) proceeding from empirical data to theory.

(ii) having a bias towards quantitative economics.

(b) In addition to the 6 themes proposed in Document 2HD/20, a seventh *theme should be added on* Indian economic *thought on which* Prof. Shanmugasundram could be requested to do the drafting.

(c) A rough outline of these 7 themes should be produced by the suggested authors for a full discussion at the 1973 seminar of research supervisors at Karnatak University.

On the above basis it should be possible to launch the more detailed project for the Indian Economics Text Book.

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Third Meeting of the Advisory Committee of the Madras Institute of Development Studies:

1. *Attendance*: The Third *Meeting of* the Advisory Committee was held in the Seminar room of the Madras Institute of *Development Studies* on Monday, the 18th December, 1972 at 10.30 a.m. with the following attendance:

Mr. N. D. Sunderavadivelu (Chairman),
Vice-Chancllor,
University of Madras,
Chepauk, Madras-600005.

Dr. N. Subramanian,
Professor of Ancient History,
University of Madurai,
Madurai-2.

Mrs. Elizabeth Adiseshiah,
Co-Trustee,
Madras Institute of Development Studies,
74, Second Main Road, Gandhinagar,
Adyar, Madras-600020.

Dr. V. Shanmugasundaram,
Prof. & Head of the Department of Economics,
University of Madras,
Chepauk, Madras-600005.

Mr. M. N. Rao,
Secretary-Partner,
M/s Seshachalam Book Publishing Co.,
Sunkurama Chetty Street, Madras 600001.

Dr. Malcolm S. Adiseshiah, Director,
Madras Institute of Development Studies,
74, Second Main Road, Gandhinagar,
Adyar, Madras-600020.

Mr. J. P. Naik,
Member-Secretary, I. C. S. S. R.,
I.I.P.A. Hostel Building, *Indraprastha Estate,*
Ring Road, New Delhi-1.

Apologies for absence:

Dr. A. Ramaswami,
Prof. & Head of the Department of Economics,
Annamali University, Annamalainagar,
Chidambaram, South Arcot District.

2. *Report on Execution of the 1972 Programme (Doc. 3AC/2):*

(a) *Studies*: The Committee noted the completion of the first phase of the following two studies:

(i) *Educational Status of Scheduled Castes in Tamil Nadu.*

(ii) Educational Status of Scheduled Tribes in Tamil Nadu.

It noted the use being made of them by the Department of Social Welfare of the State

Government. These two studies and the next one are sponsored and financed by the Indian Council of Social Science Research.

It noted the completion of the following two studies:

(i) Economic Profile of Scheduled Castes in Tamil Nadu.

(ii) Rural Employment in Tamil Nadu.

The Economic Profile study has been sent to the Department of Social Welfare for its use and reproduction and will then be transmitted to the Indian Council of Social Science Research. The study of Rural Employment is under review by the Director.

The following three studies are under way and will be completed in next three or four months.

(i) Primary Education and Adult Literacy in Tamil Nadu.

(ii) Land Reforms in Tamil Nadu.

(iii) State wide distribution of essential goods.

It was suggested that where appropriate information on the status of the problem being studies in the district, block or other area might be brought out, while not restricting the study to any one district in order to present a balanced State picture.

(b) *Documentation*: The Committee noted the appointment of Mrs. Sarasvathi Nityananda as librarian and the gift of books by Mr. R. Venkataraman and the growing exchange programme with other institutions.

(c) *Monthly Seminars*: The successful education of the twelve monthly seminars as recommended by the Second Meeting of the Committee was noted with satisfaction. The two special seminars in July and November chaired by Mr. R. Venkataraman to receive the papers by Prof. A. C. Harberger and Prof. Joseph Pois were also noted. The seminar has an inter-disciplinary forum meets a felt need.

(d) *Workshop*: The Second Workshop on Research Methodology sponsored by the Indian Council of Social Science Research and held in the Andhra University, Waltair from the May 8th to June 18th was reviewed in light of its contribution to the Southern Universities and the seven problems that it had faced. Thanks were expressed to the Andhra University for providing the host facilities and the Indian Council of Social Science Research for its financial help.

(e) *Annual Seminar*: The annual seminar on Techniques of Perspective Planning co-sponsored by the Institute for Techno-Economic Studies held in Rajaji Hall, Madras on October 20th and 21st, together with its final recommendations and their follow-up by the State Planning Commission were reviewed. The follow-up of the 1971 seminar on Consumer/User Oriented Research through the proposal for the Tamil Nadu Science Foundation incorporated with the State Plan was noted with satisfaction.

(f) *Second Meeting of the Heads of Departments of Economics*: The Second Meeting of the Heads of Departments of Economics of the Fourteen Southern Universities held at the Institute on December 15th and 16th attended by thirteen department heads and the Director was noted. The meeting was sponsored by the Indian Council of Social Science Research. Its recommendations (reported in the previous section of the Bulletin) were reviewed for appropriate future action.

(g) *Publications*:

(i) *Bulletin*: The twelve issues of the Monthly Bulletin Volume 2 including the two special issues No. 6 and No. 12 were noted. The Bulletin has now nine standardised sections.

Section I – General Economic Scene, giving a critical *conspectus* of economic events in the State, the Country and the World,

Section II – Agricultural Development in the State,

Section III – Industrial Development in the State,

Section IV – Education, Science and Health,

Section V – Employment,

Section VI – Institute news,

Section VII – The previous month's seminar paper and summary of decisions,

Section VIII – A second article by the Director,

Section IX – Correspondence or Book Review.

(ii) *Other Publications*: The following publications have been issued by the Sangam Publishers for the Institute :

1. Income-earning trends and social status of the Harijan Community in Tamil Nadu
— by A. Vagiswari
(Finance by the Indian Council of Social Science Research

2. Economics of Dry Farming in Tamil Nadu — by R.K. Sampath and Jayalakshmi Ganesan.

3. Nutrition in Tamil Nadu
— by Rajammal P. Devadas.

4. Techniques of Perspective Planning — a Joint-publication with the Institute for Techno-Economic Studies, published by the Tamil Nadu Government Press.

(h) *Fellowship*: The arrangements for Prof. N'Diaye of Senegal to take up the University Grants Commission/Indian Council of Cultural Relations' Fellowship at Annamalai University for study of Dravidian linguistics from July, 1973 and the Indian Council of Social Science Research's fellowship for the study at the Institute of the educational employment problems by Mr. Abdel Rehman Medani of Sudan were noted.

(i) *Audited Accounts*: The audited statement of accounts of the Institute from 1st April 1971 to 31st March 1972 was received by the Committee. The Committee expressed its satisfaction at the effective and successful execution of the annual programme of the 1972 by the Institute. It placed on records tts feeling that the Institute is performing a valuable service for the State and the academic community.

3. *Revised Rules and Regulations of the Institute (Doc. 3AC/3):*

The revised rules and regulations of the educational trust of the Madras Institute of Development Studies set forth in the Doc. 3AC/3 was received by the Committee.

4. *Proposed Programme for 1973 (Doc. 3AC/4) :*

The Committee reviewed the programme proposed for 1973 in Doc. 3AC/H and made the following recommendations :

(a) *Studies:* Out of the 16 studies proposed by the Government of Tamil Nadu and the continuation of those currently under way, the following four studies will be completed and a further five new studies launched ;

1. *Complete the three studies on*
   (a) Agrarian Reform in Tamil Nadu,
   (b) State-wide distribution of essential goods.
   (c) Primary Education and Adult Literary in Tamil Nadu.

2. *Continue the Study* of the educational conditions of Scheduled Castes and Scheduled Tribes, undertaking field studies in order to determine the further and/or improved educational, scholarships and hostel programme that should be planned for by the Union and State Governments. This is also needed by the State Department of Social Welfare. This is the Indian Council of Social Science Research sponsored project.

3. *Economics and Marketing Trends of Horticultural Products*: In the diversified agriculture that is being proposed in the State, horticultural production occupies an important place. Its further development requires an identification of the needed inputs, a cost-benefit analysis and market analysis which is at present a bottleneck in the expansion of this area of primary production. This study will be undertaken on the basis of primary data supplied by the Department of Agriculture.

4. *Minor Irrigation and Productivity*: The existing structure of minor irrigation works and the whole programme needs analysis. It is believed that minor irrigation prospects in the State are limited from the economic point of view. Its high capital output ratio is regarded as a serious obstacle to its expansion. This study will review the existing structure and programme of minor irrigation works, analyse its capital output ratio and make recommendations on future developments in the State. The study will be undertaken with the help of the Department of Agriculture and on the basis of data supplied by it.

5. *Unemployment of I.T.I Graduates*: The problem of unemployment among craftsmen trained in I.T.I. is mounting, At present there are 1,400 recent graduates who are unemployed. There is need to analyse the causes for this growing phenomena both on the training side and on the occupations side. The analysis should be related to the expanding and flexible self employment programmes of the Union and State Governments, with recommendations addressed to the self employment programme, its scope and content. The study will be undertaken with the help of the Department of Labour.

6. *Programmes and Investments for the Regional Plans*: Eight regional plans are now being finalised except the last chapter for each on the investment requirement and the programmes for the region. The Government requests the Institute to undertake the necessary studies and analysis on the basis of the eight regional plans in order to draft the concluding chapter for each of the plans. This study will also help the Government to integrate the district planning being undertaken by the State Planning Commission. It is proposed to undertake this study jointly with the Planning officer of the State Planning Commission dealing with district plans. This project will be executed by the Institute with the close cooperation of the Department of Local Administration and Rural Development.

7. *Women's Welfare Programme and Priorities*: The State programme of women's welfare needs and assessment in order to indicate future directions in terms of priorities, relationships with other programmes and the need to formulate an integrated programme of women's welfare needs and present programme in two urban areas—Madras and Coimbatore and two rural areas—Dharmapuri and Ramanathapuram. This study will be conducted in cooperation with the Department of Social Welfare and will be presented to the Indian Council of Social Science Research for sponsorship.

In addition the possibility of the Department of Economics of the Indian Institute of Technology undertaking for the Institute and the Government a study on Non-conformity with Wage Settlement will be explored.

(b) *Documentation*: From 1973 an annual bibliography of publications and journals relating to development received by the Institute will be issued.

(c) *Monthly Seminars*: The eleven seminars for 1973 under the theme of the Perspective Plan for Tamil Nadu (as

reported in an earlier section of this issue of the Bulletin) will be carried out.

(d) *The Third Meeting of the Heads of Departments of Economics :* In collaboration with the Indian Council of Social Science Research, the third meeting of the Heads of Departments of Economics of the Southern Universities will be held on Friday, the 14th and Saturday, the 15th December, 1973 to (a) review the functioning of the methodology courses and the state of economic research in the region, (b) plan a further methodology course, if needed and (c) advise on the progress of the economics text book project.

(e) *Methodology Course*: In cooperation with the Indian Council of Social Science Research and on the basis of the recommendations of the Second Meeting of the Heads of Departments of Economics of the Southern Universities a two week seminar for supervisors of economics research programmes will be held at Karnatak University, Dharwar at the kind invitation of the Vice-Chancellor, from 14th to 26th May, 1973 (the details of the seminars are set forth in the earlier section of this issue of the Bulletin).

(f) *Annual Seminar*: A two day annual seminar jointly organised with the Institute for Techno Economic Studies will be held on Friday, the 28th and Saturday, the 29th September, 1973 on the subject 'Plan Administration'. The programme of the seminar will be established in cooperation with State Planning Commission and the State Administrative Reforms Commission.

(g) *Publications* :

(i) *Bulletin* : The monthly Bulletin Vol. III will be continued with the same sections as Vol. II with the following changes. The typescript will be improved. There will be no separate issue for May and June will be combined special issue. The annual subscription is Rs. 9/- for Indian subscribers and $ 1.50 for foreign subscribers. The free distribution will be replaced by subscription and exchange arrangements. St. Louis Printing press will continue as printers.

(ii) *Other publications* :

(1) A Guide to Research in Economics—Edited by C. T. Kurien

(2) Rural Primary Education and Adult Literacy in Tamil Nadu — by Alexander Joshua

(3) Introduction to Mathematical Economics and Economics Statistics — by N. Rajagopala Rao and V. Lakshmana Rao

(4) Rural Employment in Tamil Nadu — by J. Viswanathamurthy

(5) A State-wide Programme for the Low Price Supply of Wage Goods — by M. Ramamurthy

(6) Land Reforms in Tamil Nadu — by G. Venkataramani

The contract with M/s Sangam Publishers will be extended for 1973.

(h) *Fellowship:* In view of the adequacy of the fellowship stipend from the Indian Council of Social Science Research or the University Grants Commission the followship programme will be suspended during 1973.

(i) *Economics Text Book Project :* The economics text book project of the Institute as elaborated by the Second Meeting of the Heads of Departments of Economics of the Southern Universities (reported in the earlier section of this issue of the Bulletin) will continue to be executed in 1973.

(j) *Fourth Meeting of the Advisory Committee*: The Fourth Meeting of the Advisory Committee of the Institue will be held on Monday, the 17th December in the Institute at 10.30 a.m.

5. Thanks were expressed to the Chairman and members of the Committee for their valuable support and advice to the Institute.

December (1972) Development Seminar :

The December Seminar paper, Student-Teacher relation by Dr. K. K. Pillai, Director, Institute of Traditional Cultures, Madras, together with a summary of the discussion at the Seminar chaired by Mr. G. Venkitaramani, Research Assistant, Madras Institute of Development Studies appears as the first article.

Second Article :

Another article, Tamil Nadu Fifth Plan Perspective, appears as the second article.

Book Review

A review of the publication by the Vaikunth Mehta National Institute of Cooperation Management—the Poona Consumer by Professor S. B. Rao—at the request of that Institute also appears in this section.

M. I. D. S. LIBRARY MADRAS.

STUDENT-TEACHER RELATIONSHIP

By

DR. K. K. PILLAY

Director, Institute of Traditional Cultures, Madras.

Importance of the problem :

The question of student-teacher relationship is an important problem; in fact it is the most pivotal problem of education. It covers almost every aspect of education. and therefore, no excuse is needed for bringing under the survey of this subject the multifarious problems confronting the educationists today.

Nor is it possible to underrate the gravity and urgency of tackling the problems of education. They concern not merely the teacher and the pupil, but the parent, the politician and the administrator and every citizen in the State. The solution for the thorny problems of education is a matter of the hour, of the minute, I nearly said. Every State in India, not to speak of other countries, is in the grip of the multifaced educational problems. Difficult as it is, a solution or a near solution has to be found for the maladies of the present system and its consequent evils. Otherwise we are bound to face irretrievable calamities.

Early Traditions : Concerning the relations between the teacher and pupils, the high position accorded to the teacher and the insistence on implicit obedience to the teachers and the whole-hearted devotion to the acquisition of knowledge on the part of the pupils and above all the emphasis laid on the development of character, India has had a long and laudable tradition. The Gurukula system is a unique institution of early India. We hear of Drona and Bhishma as outstanding examples of ideal teachers. In the extreme south, in the Tamil country, too, the educational traditions were high. An exposition of the value of education is provided by Tiruvalluvar in chapters 40 to 43 of his illustrious Kural. Tiruvalluvar lays special emphasis on the value of acquiring knowledge through listening to the wise. Knowledge received through the ear is considered even superior to mere 'Book learning'. 'Those who feast their ears with learning are comparable to the venerable people who make sacrificial offerings' (Kural 413). 'Though devoid of learning, let one fill one's ear with knowledge; it is his support in his hour of gloom' (Kural 414).

In the period succeeding the Sangam age, too, the importance of education was recognised and the role of the teacher emphasised. Some of the Padinenkilkanakku works, like the Naladi Nanuru, Nanmanikkadigai, Eladi, Tirikadugam and Sirupanchamulam have also laid down prescriptions on the qualifications of teachers, the subjects to be taught and other details concerning education.

The traditional 'pial' schools called 'pallis' were conducted invariably by individual teachers. The 'pial' was the '*tinnai*' or the verandah of the house. In certain cases perhaps sheds or covered shelters were set up near the thatched house. We hear of some pupils having lived in public rest-houses like the Manrams which seem to have served as schools.

In the pial schools a basic grounding in language and literature as well as arithmetic was provided. Alphabet was known as Nedunkanakku and that was perhaps the reason why teachers were called 'kanakkayar'. Oral teaching played an important part, and the education of those days afforded great scope for the training of memory. Writing was done on dried and seasoned palmyrah leaves with the help of a pointed iron stylus (Eluttani). While writing, usually the leaf was held between the leaf thumb and the first finger and the stylus between two fingers of the right hand. The initial training for youngsters in the art of writing was provided by making them write on sand spread on the floor.

The importance of each village having a teacher was recognised by the author of the Tirikadugam. The teacher who was known as Kanakkayar in the Sangam period was known alternatively as 'Uvattiyayar' in the post-Sangam period. 'Asiriyar' was apparently a teacher of profound learning and an author of literary works. For instance, Madurai Asiriyar Nallanduvanar was the author of poem 43 of the Ahananuru anthology and Asiriyar Perunkannan was the author of the poem 239 of Kuruntogai. 'Asiriyar' or 'Asan' also denoted experts and teachers of particular arts like music and dance. The teacher of a large number of pupils was known as 'Kulapati'; Kidangil Kulapati Nakkannanar, the author of poem 252 of the Kuruntogai, was apparently one of these. From the designations of teachers appearing in the Sangam classics it might seem that there was a distinction between the teachers of the young and teachers of higher learning because we hear of 'Palasiriyar' and 'Ilampalasiriyar'. But this presumption does not seem to be valid, because both 'Palasiriyar' and 'Ilampalasiriyar' were also designations of poets. Some of them were Maduraippallasiriyan Chentankorranar, Maduraippallasiriyar Narramanar, Maduraippallasiriyar Nappalanar and Madurai Ilampalasiriyar Chentan Kuttanar.

Poets and masters of learning seem to have had disciples whom they trained well. Whether it is a piece of legend or an actual fact, the traditional account indicates the practice of learned men having accepted certain deserving young men as their disciples. Some of the poets of the Sangam age themselves are known to have had disciples. Marokkattu Nappasalaiyar makes a mention of her revered teacher, Kapilar, the famous poet, while Kapilar himself is known to have received sound training under a distinguished master. The teacher was held in high esteem by the pupils as well as by the public. It must be reiterated that the Tamil society has always had a tradition of honouring the teachers and the learned.

The Tamils of old seem to have appreciated the importance of commencing education at an early age. "Learn while young" is a well known maxim of Auvaiyar. The Nanmanikkadigai says that it is an egregious blunder not to learn while young. "What is learnt while young is like writing on rock", is another old saw. These sayings, though of a considerably later period than the Sangam age, must have emerged from long established tradition. From indirect and later references, it may be inferred that the child's formal education commenced in his fifth year. It is learnt from the Jivakachintamani, which is no doubt a work of a later epoch, that the sons of Jivaka were sent to school at the age of five to learn the arts.

From the indirect references in the early Tamil classics and from the known data of medieval and modern epochs, the teacher in the Tamil country was in close touch with the pupils. The relationship between the teacher and the taught was that of a

father and son. Now there is hardly any mental or spiritual communion between the teachers and the students. Today the relationship has become mechanical and commercial. The teacher hardly evinces a living interest in his pupils.

In the Tamil society of early times though the rich had always a greater facility than the poor in the matter of education since they could afford to pay for it both in cash and in kind, the poor were not devoid of all chances, because they could render some kind of service to the teacher and thereby get the benefit of education. The Pandyan king Aryappadaikadanda Neduncheliyan advises his people to take the learning either by giving fees or rendering service to the teacher. In fact, this poem of Aryappadaikadanda Neduncheliyan is of great importance in emphasising the value of education. It adds that if a person of a lower caste were better educated than others, then even members of the higher caste should learn from him. It lays stress on the ideal that education should really transcend the barriers of caste. In spite of this theoretical prescription the fact remains that in early, medieval and even in modern times the people of the higher castes were in a privileged position in respect of education. The cumulative effect of the perpetuation of this communal injustice has resulted in the dormancy of the intellect on the part of the lower castes.

The present educational system :

From the introduction of an educational policy in India by the British, three stages in a pupils' education were demarcated. Well over a century ago, Sir Richard Temple, the British administrator said "Primary education is as the plinth with the foundation broad and deep; secondary education is as the superstructure with its walls and pillars; higher education is as the roof with its domes and towers. No part of the structure can be injured or neglected without affecting the safety or the usefulness or the beauty of the whole".

Several educational experts hold that pupils in India spend a lesser number of years at School than in most of the advanced countries of the world. I too, feel that there should be at least eleven years of schooling. That gives a grounding for a real higher education and proper university life. There is a glaring disparity in age between University students in India and those in Europe and America. There is no country where students are admitted to higher education in the 15 + year as in India. Even the American freshman at the age of 18 is considered unfit for University and relegated to the Junior College. Our undergraduates are more properly described as senior High School children taken as adult men and women who should more correctly belong to a Degree college. Everything considered it must be acknowledged that the P.U.C. scheme has proved disappointing. The Intermediate course can be reintroduced with advantage. Then there can be two years of Collegiate study for the first Degree, B.A. or B.Sc. as the case may be. In deserving cases a specialised post-graduate study of two years is to be provided. In this connection the selection for admission to the post-graduate courses has to be done with special care.

That brings us to the thorny problem of the restriction to admission for higher education. There has been a rapid development of higher education in the recent past in our Country, and it is not confined to the so-called higher sections of society. The latest available figures indicate the tremendous increase in the number of students attending colleges and universities. After 1947, the number of universities in India has increased from 19

to 92 and that of colleges from 250 to about 3,000. Each university has a prodigious number of students affiliated to it. According to the Gajendragadkar Committee Report the optimum enrolment for an affiliating university should be somewhere between 30,000 and 40,000 students. But in fact the major Universities in India are enormously over crowded. It is appalling to learn that even some of the residential universities have more than 10,000 students !

The number of students in the universities is nearly 2.2 million at present. The craze for University Degrees is primarily because they are considered as passports to employment. This ever increasing rush for higher education has not witnessed a corresponding rise in the number of Professors and lecturers with the result that the teacher-student ratio has diminished. Each lecture class has a much larger number of students than before.

The question arises as to whether or not this expansion of higher education is desirable. Several educationists have expressed themselves in favour of a restriction. Their contention is that the quality of higher education has suffered on account of indiscriminate expansion. In his key note address at the Seminar on Higher Education organised recently in New Delhi by the I. C. S. S. R., Mr. S.C. Dube, Director of the Indian Institute of Advanced Study, has observed that "there is nothing like a right to receive higher education" and that "it is a privilege which must be earned by satisfying fairly stringent achievemental criteria". As a statement of principle Mr. Dube's observation is unexceptionable. But the inescapable fact is that in a democracy, education, even at the highest stage, is a privilege which all deserving citizens should be allowed to enjoy. In the present context of democratic development in our Country, restriction of educational facilities is by no means desirable. As against 5,000 and more per million of the population in several advanced countries, we have in India only about 2,000 undergoing university education per million of the population. The monopoly of higher education by certain privileged sections of the community noticeable in the recent past, militates against social justice.

However, there is no meaning in any indiscriminate admission to the portals of the University, much less to the highest courses. It is desirable that the qualifying examinations are made really sound tests. Popular pressure to whittle down the standards of examinations has to be resisted effectively. In this connection it must be observed that some of the students of the backward communities fare remarkably well at the examinations. But there is a growing tendency on the part of all students to be indolent and to be content with the minimum of work. This circumstance, coupled with frustration in procuring employment has accounted partly for the colossal unrest on the part of students.

Student Unrest: In fact, the most alarming problem in the field of education at present is the ever increasing number of strikes and boycotts. Confining our attention to India — and few other countries are free from this menace—it is seen that almost every part of the Country is affected by this malady. Whether it be Bikanir or Andhra Pradesh, Bihar or Kerala, Bengal or Tamil Nadu, it is all the same everywhere. One writer observed sarcastically that the Indian academic year is divided into three terms: the first devoted to inaugural functions, the second to agitations and the third to valedictory speeches. Like all generalisations this view is not quite accurate; for one thing agitations on the part of students are not

confined to the second term alone. They spring up at any time except perhaps during the vacations, and they arise on account of any cause, reasonable or otherwise. For intance, the 68 day long strike in the Rajasthan Medical Colleges for higher stipends and interest free loans to encourage rural medical practice and private medical service respectively, the Delhi pre-Medical students' agitation for more medical seats, the agitation of the students of Delhi for better transport facilities, the Bikanir students clamouring for a separate University, the strike of the house-surgeons and the medical post-graduate students in Andhra Pradesh on the issue of allowances, the language riots in Assam, the agitation for and against the Mulki rules in Andhra Pradesh, the student strikes in Tamil Nadu against police action in the discharge of their duties, the clamour for a voice in the administration of the Colleges and Universities—these and many more are heard frequently. In Ganganagar District of Rajasthan, the college students went on strike demanding an increase of 5% in marks in the preceding examinations on account of the Indo-Pakistan war. The State Government agreed! There is now an impression all over the Country if the students agitate, anything can be achieved.

Analysing the causes broadly they may be divided into two categories, one the clamour for academic privileges, justifiable or otherwise, the other the desire to identify themselves with political agitation of one kind or other. It is imperative that the rot be stopped before it grows worse.

The students must be weaned off from politics. It is one thing for students to take an interest in politics, which they can certainly do with advantage; but it is another to plunge themselves into active politics ruining their studies and wasting their parents' money. But it is easy to offer this counsel. Will it be acted upon?

The following prescriptions have been suggested on 18-9-1971 by Thiru D. Seshadri, a correspondent to the 'Hindu'. (1) Disband all student Unions (2) Abolish leadership elections in Schools and Colleges (3) Close down all hostels, Since they are the breeding places for agitation and (4) Students must be made to study under adverse conditions. Then only can they be made to feel the value of education. These are obviously drastic and to a large extent impracticable. They may provoke fresh agitation.

For combating this desperate situation I suggest one remedy, though one cannot be certain how far it would be effective. This suggestion is to appeal to the parents to help the educational authorities keep the students away from active politics. Parents' associations may be formed from which, of course, politics must be eschewed. These associations can exercise a sobering influence on students' activities.

In this connection it must be said that more than the male adults, the women of the household can play some effective role, if they realise the gravity of the problem. They have to exercise a healthy influence on their sons and daughters. If for nothing else, at least for the sake of their own personal safety the students must be dissuaded from entanglements, in students' agitations.

That brings us to the consideration of the role of the State in combating this grave situation. If the students are given a free hand in their agitational approach, trouble ensues, public peace is endangered, loss of property is incurred and an air of insecurity and indiscipline prevails. But even in the effort to maintain law and order, when the police resort to use some force, there are insolent protests. The inevitable injury which befalls some student or the other is made the ground

for further agitation, providing an additional ground for accusations and adjournment motions in the legislature. Surely the lot of the Government and of the police in particular is unenviable.

In all seriousness I suggest that some day, sooner rather than later, a public pronouncement from the highest authorities in India must emanate to the effect that students participating in any hartal or agitation of any kind are likely to do so at their own risk and that parents and elders must give their wards a timely warning not to embroil themselves in any agitation. This has to be done unless utter chaos is to be perpetuated. After the warning the police has to take justifiable action whereever necessary. As long as students are treated for purposes of law and order as a special category, there will be no end to unrest. All new proposals to improve the quality of education will have no meaning if the students are given opportunities to rebel and retaliate, at the end of which they are allowed to go scot free.

It is easy to suggest the formation of students' Councils. If in a few instances at least they prove effective, the situation will be encouraging. Unfortunately the experience, wherever it has been tried, has proved far from satisfactory.

Even so are the so-called organised personnel services. Such services may help students in the choice of subjects, help in adjustment to college life and more specifically in the area of study techniques and skills. Even when they are operated by professionally qualified persons, the beneficial result may be only temporary.

Teachers: That brings us to the important question of manning the educational service by competent and devoted persons. For one thing, there has been no increase in the personnel of the teaching staff corresponding to the growth in numbers of the students. This is true not only in respect of the collegiate section but also of the High school and even Primary school set-up. This is most undesirable from the standpoint of the development of a healthy teacher-pupil relationship. It has to be observed here that the work load of teachers is too high, averaging in most Universities 15 hours a week, and what is worse, involving too many subjects for each teacher to teach.

Numbers apart, the quality of the teacher is of pivotal importance. It is a truism to say that the teacher, both by precept and example, should be a source of inspiration to the taught. The time-honoured tradition of dedicated service on the part of the teacher must be re-established. The teacher must virtually become a hermit passionately devoted to his sphere of intellectual pursuit and at the same time prepared to inspire his wards with enthusiasm.

Unfortunately there has been a conspicuous fall in the quality of the teacher, particularly in the field of higher education. Many of them are totally unsuited for the noble profession of teaching. Quite a large number of them have no love much less passion for acquiring fresh knowledge or transmitting this to their wards. It is sometimes said that a teacher is born and not made. Perhaps there is a large measure of truth in this.

What is worse, some teachers are active politicians. Their activities or proclivities being confined to academic politics may be understandable but quite often it transcends that limit. They take a surreptitious part in the State politics and not infrequently incite students to take sides in the politics of the State. At times the teachers themselves strike work. The Jodhpur University, for example, has been for many years plagued by the evils of

groupism, nepotism and partiality. Regarding a prolonged strike in a South Indian University, it has been stated (The 'Hindu' dated September 25, 1971) "what is galling to observers is the mysterious way in which the internal teaching problem, their promotions and appointments or their career prospects get mixed up with the students' demands".

The teachers have also begun to form Unions to advance their cause. The Vice-Chancellor of the Delhi University suggested the formation of College Councils. The Teachers' Association of the University protested against it. The scheme of the Vice-Chancellor envisaged the formation of such Councils for a group of Colleges and these Councils were to act as a buffer between the College Principals and the Vice-Chancellor, and they were charged with the task of sorting out all *academic* questions before the University came to a final conclusion. On the face of it there was nothing objectionable in it since it only meant decentralisation which should have been welcomed by the teachers. However, the Vice-Chancellor, instead of allaying the fears of the teachers, issued an ordinance empowering the University to set up the Councils. The teachers were enraged and they threatened to strike. The Vice-Chancellor did not budge and the Minister took up the cause of the Vice-Chancellor and an amending Act was passed briskly to replace the Ordinance.

The teachers then struck work and the Class IV staff also joined them. The Vice-Chancellor was helpess. He declared finally that though the Act was passed authorising him to set up the councils, he would not do so until the teachers agreed to this. The strike was called off and the colleges began to work normally. It was a triumph for the teachers' Union. This gave also an encouragement to the students to demonstrate to get their so-called demands satisfied. It may be noted that the President of the Students' Union is a member of the Jan Sangh. A former President of the Union has joined the Congress Party. This is a typical situation in a University where both teachers and students have their political affiliations in pursuance of which they act.

A distressing fact is that politicians are not found wanting to back student agitations. Many politicians are outdoing one another in a frantic race to gain sway over impressionable minds and rope them into their unscrupulous politics. Students have fallen victims to the manoeuvres of politicians. In Kerala, for instance, the student and youth wings have acquired a dominant position in the Kerala Pradesh Congress Committee. In fact organisations of Congress students and youth units are a force to reckon with in the State political arena itself. In Andhra Pradesh, Tamil Nadu and elsewhere organised stoning of public buses by students resenting stray instances of misbehaviour of transport employees resulting in heavy damage to public property and retaliation by the latter have become far too common.

The National Cadet Corps, the National Discipline Scheme and the National Service Scheme have not disciplined the Indian student and will not discipline him as long as the teacher is ignored and the elders remain indifferent, insincere and corrupt.

The entire trouble of the system of higher education is that as stated earlier, most of the students take to it as an avenue for employment. Historically speaking this feeling has been fostered indirectly from the days of the British rule. The British Government needed clerks and secretaries for the discharge of their administrative responsibilities. The English-educated persons were found useful in the

service of the administrative departments and educational policy was linked with government employment. Gradually, during the last hundred years or so, the feeling has gained ground that a University Degree is a sure passport to Government service. The true objective of education has been ignored. The result is unfortunate. On the one hand, it is not found possible to provide employment for the speedily increasing number of graduates and highly qualified persons; on the other, the true aim of education is cast to the winds.

Work-based education: A recent suggestion made by the Chief Minister of Kerala represents one of similar proposals put forward by several educationists. His idea is that after the S.S.L.C. a large number of pupils must be diverted to technical education of one kind or the other. Emphasising that it is necessary to disabuse the minds of the people at large of the real value of a Degree, he urged that we should consciously and systematically try to "denigrate" or "debunk" Degrees. The employment agencies, Government or private, should set no value on Degrees, but give recognition to real attainments and experience. Though similar suggestions have been made by others, this comes from the Chief Minister of a State, where the problem of unemployment among educated is most acute. But the suggestion is not free from difficulties. In due course there is bound to be a glut among the technically trained S.S.L.Cs. Secondly there is no corresponding assurance that the quality of the higher education would be improved. One important fact to be remembered is that incidental to serving as a passport for employment, the higher education fulfilled to a certain extent the edification of the recipient. Theoretically it must be admitted that some knowledge is acquired by the undergraduate through higher education.

My own feeling is that instead of the S.S.L.Cs. taking to technical education, the graduates my be switched on to that line, so that they would have had a grounding in both higher education and technical education. The current preference for the white-collared job must vanish and graduates and post graduates should have no hesitation to take to even manual work. There have been some instances of University men taking to what was considered mechanical or manual labour. Quite recently (on December 6, 1972) Cheruvikal Panchayat, on the outskirts of Trivandrum city witnessed the rare and inspiring spectacle of University boys and girls working shoulder to shoulder with the local villagers on a rural housing project of the Kerala Government. One is eager to know how long such enthusiasm would last and whether college students elsewhere in the Country would undertake similar work. The first flush of enthusiasm is no indication that it will continue. But a tilt in the outlook of graduates and their parents in favour of mechanical work is bound to be beneficial in the long run.

A scheme for entrusting students with the duty of making the common people literate has been suggested. During the vacations each student must make at least five persons literate. The students should be given training in literacy methods during the first year of their study. At the end of the second year, during the long vacation, the students will be asked to render community service, as for instance, working in a slum area or among harijans. And at the end of the Degree course, they will have to render the year's national service, the content of which will be defined in consultation with all the interests concerned. By this the students will be made to feel that they have an important role to play in the welfare of society as such. This will wean them away from violence and destructive activities, whatever be their demands.

Turning to the existing system of higher education itself, some suggestions regarding the methods currently adopted may be considered. It is accepted on all hands that the present system is very defective and has been steadily deteriorating. Success, and if possible with distinction in the examinations, is considered by students to be the only goal. This determines the patterns of learning and teaching. Lectures of a high quality, invoking independent thinking and expression are at a discount. In fact, lectures very often take the form of dictation of 'notes'. 'Made easy' books are widely popular. Little wonder, the teacher has lost his respect both in the class room and outside. There is a wise saying in the Jewish text which states that Jerusalem was destroyed because the teachers ceased to be respected. Reading beyond the text book is falling into disuse.

The Reading habit: The cultivation of the reading habit is one of the important objectives of education. It has been repeated *ad nauseam* that the reading habit should be cultivated fairly early in life. In the schools and colleges the curricula of studies are to be revised with a view to promoting the reading habit. Moreover, the library facilities have to be improved. Gibbon said "The pleasures of reading I will not surrender for the treasures of India" How many of the educated persons of our Country would really appreciate this statement? Above all the teacher, both by precept and by example should provide the inspiration for wide reading. The ideal of relentless devotion to the search for truth must influence not only the teacher but the student as well.

Research: The academic Degree is at best a mere passport; it is not the be all and end all of learning. Education is indeed a life-long process. 'Make an end of learning only when you make an end of living' is a famous dictum well worth adoption by every student and teacher.

In most of the Universities of our Country a great stress has been laid on research degrees like the M.Sc., M.Litt., and Ph D. But it has to be admitted that the research work which wins these degrees for the recipients is not uniformly of a high standard. Moreover, there is little justification for contentment with procuring these degrees. They are fruitless unless research is pursued further.

There is frequently a charge levelled against modern Universities that they have not succeeded in producing outstanding scholars and scientists in impressive numbers. A Rabindranath Tagore, a Sarojini Devi, a P. C. Ray, an S. C. Bose and a C. V. Raman are assuredly too few for a country which had produced quite a number of savants in the distant past. Frequently it is said that in respect of Tamil Nadu, for instance, our Universities have not produced gems of the stature of an Ilango, a Sekkilar or a Kambar. The literary products of the modern times stand on an entirely different footing from those of classical writers. How do we account for this especially when facilities for intellectual efforts are much greater than in earlier times? Clearly the failure to promote the reading habit, independent thinking and a critical faculty on the part of students is the basic cause.

By and large, an excessive emphasis on formal examinations alone has restricted the scope for the development of individuality, independent thinking and original productions. Nearly fifty years ago, the Hartog Committee on Indian education staged: "The theory that the University exists mainly, if not solely, to pass students through examinations still finds too large an acceptance in India and we wish that there were more signs that the

University regarded the training of broad minded, tolerant and self-reliant citizens as one of their primary functions". As Mark Pattison of Oxford said: 'the fruit of learning is not a book but a man'. Examinations are no doubt needed; but their domination and their nature have not contributed for the promotion of original intellectual effort and creative work in any conspicuous measure.

Tutorial System: One of the remedies suggested is the adoption of the Tutorial System. Oxford and Cambridge had through the centuries developed a sound tutorial system. Latterly that does not seem to be working in the same sound manner. However, the ideal tutorial system may be introduced in at least a few institutions of higher education in our country.

During the course of the formal lecture certain salient points provoking thought alone may be stressed. Thereafter the theme is worked on by the students on the basis of prescribed reading. This is followed by the students writing an essay on the topic which will be discussed in a small group of three or four students who have similarly worked on it. The tutor presides and a discussion of the written matter follows. As Dr. Will More of Oxford said "The tutor will help the student to refute or correct him; which is to say that he will teach method rather than hard and fast conclusions." Adopted in the right spirit, the tutorial system is bound to provide useful results.

But how many Colleges in India can afford to adopt tutorial system? Many tutors, of the proper type, are needed; library facilities have to be increased and above all the outlook of the students has to be attuned to this pattern. It is suggested that some Universities adopt the Tutorial system in the first instance.

Seminars: Seminars are useful concomitants to the Tutorial system. They provide further thinking on the subjects and also cultivate the proper expression. Now we hear frequently of seminars in India; but they are not all of the ideal type. A beginning can, however, be made in the direction of organising a scheme of well-planned seminars. They promote thinking and free expression and above all exchange of view.

Examinations: The basic problem for improving the relations between the teachers and the students and for reorganising the system of education as a whole is that of examinations. The system of examinations of the present has come in for a great deal of criticism for several years past. Every one admits that examinations have become stereo-typed, that they lead to concentration on a few books, that they encourage the use of made-easy books and finally that they afford little scope for independent thinking on the part of students. These criticisms are valid up to a certain extent. But it cannot be denied that that shortcomings are exaggerated. The scope for test of intelligence, no less than of memory, does exist even in the present much-maligned examination system.

Internal Assessment: The question arises as to what alternatives can be suggested. Internal assessment is one of the devices, though it need not supplant the external examination. Each has its merits and shortcomings. Internal assessment—that is periodical assessment of students' learning by their teachers in the colleges is favoured by many. While teachers are generally in favour of its adoption, students are opposed to it. In particular, they are against the combination of internal marks and the marks of the external examination. This is an apprehension which the teachers in due course have to dispel. One foreign

observer, Walker H. Hill, a U.S. Consultant on Examination Reform says that "Internal assessment has failed in India more often than it has succeeded." But in my view the failures in the past need not totally deter us from trying it further; in the initial stages, the progress record of the internal assessment need not be combined with the examination marks. They may be shown separately.

It might be advantageous to try internal assessment initially with the post-graduate sections before extending it to lower limits. In the beginning internal assessment is limited to academic achievement in the curricular subjects. Some have suggested that assessment may be made of such traits as "personality", "character". and "conduct". It is possible to evaluate these if the traits are adequately defined and means of treating them are developed; but this would require a long period of study and development. Internal assessment is now in vogue in technical and professional institutions such as the I.I.Ts. and the Agricultural Universities.

The marks awarded for internal assessment are to be kept a secret. There may be opposition to it; but it has to be resisted. That alone makes the position of the teacher strong. But the apprehension that it may lead to victimisation should disappear when in due course the bona-fides of the teacher is established.

Oral Tests: Internal assessment and Public or external examinations can be supplemented by oral tests (Viva Voce). They are not very popular in India, partly on account of the time taken in examining a large number of candidates. An oral test may reveal characteristics of students which may not be revealed in any other way. But it must be admitted that it is most difficult to achieve reliability in oral testing. Standards of assessment may vary; but, by and large, they yield dependable results. However, Viva Voce tests need to be employed only at the post-graduate level.

In respect of written examinations it is now recognised that a continuous assessment is a more reliable index of a students' intellectual qualities and scholastic abilities than a single examination at the end of the course. The written examinations would certainly test the memory and the skill in arranging the facts. Very important is the need for testing the capacity for independent thinking. Questions are to be so set as to test all these qualities. There is a positive advantage in providing a wide choice of questions; but there is also the defect that some candidates choose only memory testing questions. Examiners must be from outside though in recent times even this practice does not yield fool-proof results.

Autonomous Colleges: The question of organising autonomous colleges has come to the fore in recent times. When Colleges become autonomous, they hold their own examinations or make their own evaluation of the students' performances either by internal assessment or by other methods. At the outset there might be suspicions regarding the bona-fides of the examinations or tests employed by each College. But in the long run the Colleges must be able to build up a reputation for integrity and impartiality. In my view the examiners of the final examination should be appointed from outside.

Open University: Then there arises the question of organising an Open University affording scope for even those not having the essential entrance qualification. The Education Ministry of the Government of India has set up a working group to consider the feasibility of establishing an "Open University" in the country. The

'Open University' which has been tried in other parts of the world with a fair measure of success, is different from the regular University in that "entry is open to any one whether or not he or she has formal academic qualifications." In the Indian context the 'Open University' is to provide opportunities of undergraduate and post-graduate education to all those who, for some reason were precluded from achieving their aims through an existing institution of higher education.

The distinguishing feature of the 'Open University' is that the students of the University will not be confined to one or two subjects; their programmes of study will be designed to embrace a wide range and interdisciplinary approach will thus characterise the Open University courses consisting of correspondence lessons, requiring return of assignment by students, a series of television or radio programmes, short summer courses and regionally organised tutorial and counselling system.

Experts feel that since India has already the essential components for an 'Open University', the cost of setting up such a University may not be very high. Mass media like television as in Delhi and Bombay and radio are already available in the country. Correspondence courses are being offered by ten Universities. The cost per pupil will not be as high as in traditional Universities, since an 'Open University' does not need a campus and attendant facilities.

The 'Open University' is also expected to reduce the pressure on other Universities for admissions. With all that, other things being equal, a student who passes through the portals of a regular university is on a better footing and has a better type of education, intimate contact with teacher and other students. 'Open Universities like Tutorial Colleges, are more for those who aim at procuring Degrees only.

Medium of Instruction: There comes ultimately the thorny question of the medium of instruction. There is a *prima facie* case for the instruction in the mother tongue or the regional language at all stages of education. There is a natural case in teaching and understanding the matter in one's own languages. The difficulties of expression of scientific and technical terms can be overcome by adopting foreign words which have come into general use. Chauvinism in this respect has to give place to practicability and ease for the teacher and the taught. The lack of adequate books has to be speedily made up by a steady and sustained effort. The example of Japan serves as a useful guide.

But, in India, there is a half-hearted approach to this question. Several of the well-to-do prefer to send their children to schools and colleges where English continues to be the medium of instruction. Among the students in Tamil Nadu a considerable section opts for the English medium under the hope that prospects of employment will be better.

It is ruinous to have the duplicate pattern of education which promotes a caste system. The need for a uniform policy in the educational field is widely recognized. No doubt, there are some whose mother tongue is different from the regional language preferring the English medium. But their number must be small and even for them it must be possible to acquire reasonable proficiency in the regional language. The English medium institutions of education have to be reduced to the lowest possible extent.

To say this is not to counsel the abandonment of the study of English as a second language. The advantages of having a working knowledge of English are obvious. In fact that itself should improve the vocabulary of the regional

language. Moreover, the contact with other countries will be facilitated by the adoption of this course. It need hardly be mentioned that the entire world is much easier of access than ever before. The scope for widening one's knowledge will be improved through acquaintance with the English language. In this connection it may be noticed that even where the regional language is well developed as in Sweden, Holland and Poland, it is usual for those who attend higher educational institutions to have a good knowledge of one of the major languages of the international intellectual community.

Conclusion: Thus the problems of education in general and those, pertaining to the relation between teachers and students in particular, are many and varied. Some of them seem to defy solution. Some recommendations are theoretically sound but unworkable in practice. The entire approach to the educational set-up is confronted by the ever-growing student unrest. But it is my hope that it will subside soon. Soon we will turn the corner and education will be free from the agitational approach of the present. Then some of the suggestions like selecting proper teachers and students, establishing ideal relations between them, the introduction of sound tutorial system and seminars; the adoption of internal assessment besides the continuance of external examinations, these and numerous other questions will be properly tackled and solved. Above all, better teachers, more devoted students, more co-operative parents and more reasonable politicians alone can save free India from the present educational anarchy.

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Summary of discussion

In the discussion of the paper at the Seminar in the Seminar Room at the Madras Institute of Development Studies on December 28th under the chairmanship of Mr. G. Venkataramani, Research Assistant of the Institute, attention was drawn to the practical aspects of student teacher relationship leaving for later study the philosophical or theoretical facts of the relationship. What is needed from the Seminar are specific suggestions for amelioration. The principal problems are a deterioration in the ideals and equipment of the teacher and a decline in the ambition and outlook of the student. The general and wide-spread occurrence of student unrest is a disturbing phenomenon. The unrest is generally triggered off by a minority with a compulsive urge for leadership. A deplorable feature, specially in this Country, is the role of political parties and politicians in influencing student bodies. The hitherto passive attitude of parents towards the involvement of their children in agitations and demonstrations should be replaced by an active effort to guide their wards into constructive activities. The background to all this disturbance is the inadequate and irrelevant educational system.

The student viewpoint clearly expressed in the Seminar is that the educational system reflected the socio-economic framework and the irrelevance of higher education in particular to the framework in which it existed served to emphasise the flows in the social and economic structure. One view was that the socio-economic framework should first be broken and al

attention and action should be concentrated on it. The crisis on the campus was the complement of an economy in chaos. Under these circumstances student unrest was a healthy reaction. While students should rise above petty politics, far reaching social changes had to be made if education is to be meaningful again. The right to participate in creating a climate in which these changes could come about was strongly affirmed. The increasing economic hardships render it needful for both parents to earn and was responsible for the fact that parents had less affection for and interest in their children than than in times past. Another point made was that the paper did not take cognisance of the large increase over the years in the number of students or of the change in the sociological composition of the student groups. The value content of education had, however, remained unaltered and by implication meant further disharmony.

The possibility and desirability of students taking part in quasi-political activities and at the same time doing justice to their academic commitments was challenged. In this context, foregoing of classes to attend organised demonstrations, however righteous or meaningful the causes, was criticised. There was considerable concern expressed about the increasing non-acceptance of the teacher in general, even in a functional role, despite the fact that institutions were well provided with facilities and a design for corporate living.

Some specific suggestions were made for improvements within the existing system. These covered optimum size of classes, a need for guidance and aptitude test even at school level, concentrated problem-oriented training of teachers, more contacts between parents and teachers and as essential priority on lifting of restrictions on the import of books and equipments. A re-definition of the essential and true aims of education was called for. Change had to come from within and the basic role of the teacher was to help this process. An integrated approach which took into account the many dimensions of a student's personality was considered a pre-requisite.

There was no questioning the conclusion that the present instability in student-teacher relations is a part of the general social and economic confusion, to which it added its own contribution. The need for radical change was self evident, though there are different opinions on the paths to be followed. One view is that this country has chosen the democratic path of change by reform instead of by revolution. It is a unique situation, without precedent in history, where we are experimenting with a political democracy based on mass poverty and all its corollaries. In this context, recognition by the student of the basic priorities is of considerable importance. The first priority is the need for educated, qualified expertise able to anticipate and deal with the problems that would arise in a rapidly changing society, including in particular, the educational sub-system which they should help in changing. Their involvement would be achieving the excellence and skills required in the process sharing and shaping the ideals by which the country would be sustained. The political aspect of this involvement was of much less importance than the base of skills without which other resources would remain totally inert. A clear understanding of these issues and roles, which do not seek to denigrate the student or belittle the teacher would be a significant contribution to a happier relationship between students and teachers.

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The Madras Development Seminar and the Madras Institute of Development Studies record their profound sorrow and grief at the passing of Mr. C. Rajagopalachari who was instrumental in the Country emerging as a free and independent nation, in the development of democracy in the State and in acting as our friend and guide at all times. All members of the Seminar and the Institute on this occasion pledge themselves to carry forward Rajaji's unrelenting fight for freedom, decency and true well being in public and private life as the only tribute that can be paid to him.

TAMIL NADU'S FIFTH PLAN PERSPECTIVES*

Fourth Plan Appraisal: In examining Tamil Nadu's Fifth Plan perspective, we must see where we will be as a State at its start. What was our Fourth Plan, what have we accomplished and what are our constraints? In this address I am confining myself largely to the State sector of the Plan.

Objective and Scope: We started the Fourth Plan with the following brief statement of its objective: "While taking due note of the serious difficulties currently facing the economy such as inadequate agricultural production, rising prices, recession and unemployment in industries, we have borne in mind the need for striking a balance in the Plan between programmes calculated to relieve the immediate stresses and strains and those necessary for ensuring a reasonable start on the realisation of the long term objectives of economic growth and social justice." Accordingly we proposed a Fourth Plan outlay of Rs. 624 crores (plus Rs. 86 crores for what are called Centrally sponsored schemes) for (a) further augmentation of power generation, (b) rapid increase in agricultural production, (c) widening range of manufacturing activities and (d) enlarged social services, particularly housing and water supply. The Union Government, however, approved a Rs. 100 crores smaller plan, that is a Rs. 519 crores Plan. This meant that from the start of the Fourth Plan on to today we have had to rearrange our priorities and accept a consequent element of distortion in project formulation and execution.

Achievements: Our major achievement in the current plan is the break through in food production. We have moved from a low annual 50 lakh tonnes including 35 lakh tonnes of rice on the eve of the Fourth Plan to 70 lakh tonnes including 54 lakh tonnes of rice last year. We will end the Fourth Plan with an annual food grain production of 73-75 lakh tonnes, including 54-56 lakh tonnes of rice. From being a food deficit State, we have now become a food surplus State. For this achievement the Government and the farming community are responsible in the successful use of the technology, including a rapid programme of energisation of pump sets.

A second achievement has been rural electrification and housing for the weaker sections of the community. Today 12,837 villages out of a total of 14,124 have been electrified, and we will end the Fourth Plan with all our villages electrified. Over 5,000 slum clearance, low income group and middle income group housing units have been constructed in the first two years of the Plan and these will be more than doubled by 1974.

A third achievement has been the continuation and strengthening of the diversification of our manufacturing profile, and very good performance in four of our manufacture to date—cement, rubber goods, sugar and engineering goods. Our industrial diversification can be seen most clearly, not by looking at the gross production figures of the 14 manufacturing group, where textiles still

* Extracts from an address by Dr. Malcolm S. Adiseshiah to the first Quarterly Meeting, Southern India Chamber of Commerce and Industry, on December 15, 1972.

occupies a more than a 50 per cent place (being even so a lowering of 20 points over the decade), but by examining the value added table for these 14 groups—which is an indication of the trend for the future. Here textiles has declined to less than half its share in between the Third and Fourth Plans (from 34 per cent to 16.7 per cent), while the engineering group is emerging as the dominant group (accounting for 33 per cent of the total value added). It is also one of the few growth inducing sectors in our State industrial economy.

Finally the social service have registered an impressive quantitative increase. There has been a veritable explosion in education at all levels, with our annual education budget touching near Rs. 100 crores. 70 per cent of all urban areas have piped protected water supply and 80 per cent of the villages have some drinking water source, but what is more important is that we have for the first time through the Water Supply and Drainage Board readied ourselves to tackle the problem of protected rural water supply. We have covered all our blocks (374) with primary health centres and have 2,700 sub-centres each serving about 10,000 people. The promotion of welfare of Scheduled Castes and Tribes, constituting 18 per cent of our population and backward classes estimated at 50 per cent of our people has called for an expenditure of over Rs. 50 crores during the Current Plan.

Set Backs : Against those achievements, we can also look at our set backs during the Current Plan in order to identify the constraints facing the development of our State during the Fifth Plan. The major problem is our continuing mass poverty. Though our State income increased by 5.5 and 5.6 per cent during the first two years of the Plan, this has meant only a per capita income increase from Rs. 376 to Rs. 389 in the 2 years at 1960-61 prices. For our State we have computed that a person must spend at 1969-70 prices Rs. 33.22 per month on minimum food, clothing and housing to live above the poverty line. (I am leaving out for the moment the effect of the 10 per cent price inflation we have experienced this year compared to the 4 per cent of the previous years). On this basis 52.5 per cent of the people of our State (comprising 64.5 per cent of the rural and 35.5 per cent of the urban people) are living below the poverty line. This two sector population dichotomy has its counterpart in the spatial dichotomy of the State—six districts with per capita income above the State average and eight districts below it, the 6 industrially advanced and the five industrially retarded districts, the 30 per cent modern, water based irrigated agricultural areas and the 70 per cent traditional, rainfed drought prone areas.

A second serious problem is our growing unemployment, and even more serious under employment, and what the Fifth Plan approach paper calls thinly employed. I have no computation of the numbers involved in the underemployed and thinly employed category. The State Planning Commission has computed that there were 1.2 million unemployed in 1971 and that by the end of this Plan they will have increased to 1.65 millions. Within this total of unemployed we have a particularly awesome problem of educated unemployed. Using the returns from the live registers of Employment Exchanges, as of 30 September 1972 the Government reports that there are in our State 4,97,468 job seekers, about half of whom, 2 lakhs are educated unemployed—that is those with S.S.L.C. qualifications and above upto M.Sc. and Ph.D. Of these educated unemploye d2,711 were engineers, 4,196 diploma holders 16,554 technicians.

Our third problem is the serious imbalance between our power generation and our power demands. There are the short-term causes—the two thirds of our power generation being hydel based, depending on South West monsoon which failed us this year, and the remaining one third depending on thermal generation, Neyveli and Ennore, which are functioning at around 30 per cent of capacity. But most serious is that we will be ending the Fourth Plan with a yawning deficit between power supply and power demands of 700 mw which will be more than double by the end of the Fifth Plan.

A fourth set back that we face is the poor overall performance of our manufacturing industries which has steadily declined, 5.8 per cent in 1969, 5.6 per cent in 1970 and 3.5 per cent in 1971. This has been due to a variety of causes ranging from delays and time lags in our licensing and clearance procedures, scarcities in industrial raw materials, industrial unrest and shut downs, slowing down of modernisation and capital renewal programmes, faltering management in relation to utilisation of capacity and above all, on to the very poor performance of our textile industry which is still the dominant factor in gross output terms. If to this we add the effect of the power cut and shortage, I am not sanguine about our industrial profile at the end of the current Plan.

A fifth factor that we must reckon with is that our education system is now acting as an obstacle instead of a promoter of State development. Its growing wastages at all levels ranging from 60 per cent at the primary on to 40 to 50 per cent at the secondary and tertiary levels, its not being work based and skills forming, the quantitative rush into higher education for which we do not have the human and financial resources, all these are leading to a break down in the relation between education and the economy

Finally there are the factors which are of an all India nature such as, the staggering price inflation during this penultimate year of the current Plan, our stagnant export trade, the absence of any major Union Government in this State during this Plan period and the disincentives and imbalances of our tax structure.

Constraints: And so as we enter the Fifth Plan and over see its perspectives, I would summarise the canvass as presenting the picture of a sound economic base for a rapid advance, an energetic and innovative people wanting to move forward and onward, and a good and dedicated State Government and leadership anxious to promote development on the one hand; and on the other a series of constraints consisting of low purchasing power of the majority of our people, unbalanced spatial development, heavy reliance on a limited number of food and cash crops, a near exhaustion of our surface water resources, serious and widening short falls in our power supply, an uncertain industrial policy, an educational system and a run away population growth which is impoverishing our otherwise rich human resources, and a development administration which needs the decentralized flexibility and deconcentrated resilience for responding to effective plan administration and speedy project for mulation and execution.

Fifth Plan Perspectives: In this overly long appraisal of the Fourth Plan, I have by indirection indicated the perspectives for our Fifth Plan. And so I will briefly indicate these perspectives in the form of a series of policy issues on which we citizens should concentrate our thinking and discussion in order to help first the State Planning Commission and in the final analysis the State Government with the agreement of the Union Government to establish the policy frame for our Fifth

Plan. Once we settle the policies, the resulting physical targets and financial outlays can be then worked out as a fairly easy technical exercise.

The first issue in perspective is the familiar one how much growth and how much social justice for the *Fifth Plan.* I realise that in the long run, for a poor economy like ours, growth is the necessary foundation for social justice and I said so at your annual conference last year. The policy issue for us in the Fifth Plan is that (a) growth so far has not relieved the condition of our poor majority, it has not been a sufficient condition, and (b) with our scarce resources a direct attack on poverty will mean diversion of some of these scarce resources from growth generation, without, however, tampering with the 7–8 per cent target suggested by the *State Planning Commission.* The issue is this: Should we for the Fifth Plan divert resources to raise about half or one third of our people living below the poverty line now spending Rs. 18—28 so that they can spend Rs. 33.22? If we are to do this we will need to invest more of our resources for producing a larger amount of ordinary rice and millets, cholam, cambu and varagu, more groundnuts, castor and sun flower to produce cheap edible oil, more sugar of low priced variety, more standard cloth and more cheap housing materials. Such an increased production programme of goods essential to the poverty sector will have to be accompanied by a distribution network of licensed retail, fair price, cooperative and other outlets which can make available these goods at prices which are within the purchasing power of the poor people. These will have to be accompanied by setting aside additional resources for real work based education for all our citizens—particularly the 60 per cent school drop outs and 60 per cent adult literates, more comprehensive health services within a five mile radius of each village, protected drinking water supply for them, protein enriched foods for our pre-school children and pregnant and lactating mothers and a costly but effective family planning programme. *In turn* the resources so diverted for a selective attack on the worst forms of poverty will mean both less resources to produce some of the capital goods and all of the finer consumption goods and some reduction in the spending of those of us who live above the poverty sector. It is not *only* conspicuous consumption which will have to be cut but our ordinary consumption. This policy issue is in a sense a call to return to the Gandhian call for simplicity and sufficiency.

The second issue that we must face as the Fifth Plan perspective is how much capital intensive and how much labour *intensive activities should we plan.* Here there are no choices in some areas. We must invest in power to save our industrialisation process through completing 9 hydel schemes, launching two thermal plants at Tuticorin and Mettur, reiterating the demand for the second Neyveli Mine cut and Station, and for a second nuclear power plant at Tuticorin, in addition to joining in the investment in the Southern inter-State power generation programme. So too the railways and large and some medium industries will call for heavy capital investment. But it should be clearly realised that those capital intensive programmes will have no relation to our urgent employment problem. The Fifth Plan approach paper refers to this truth very clearly when it says "In the Indian situation, possibilities of creating substantial additional wage employment through changing the product pattern in a labour intensive direction appears rather limited." The labour intensive activities cover construction, road building and land and water development which are wage employment generating and using the new technologies

to revive and extend the green revolution to dry farming, mixed farming involving optimum of crop, dairy, poultry and fish farming, the programmes to meet the second generation problems of our green revolution and small scale industrial expansion, which are self employment avenues. In the Fifth Plan, we in the State will start with a back log of 1.65 million unemployed to which we should add an annual work force entrants of 3 lakhs, making a total of over 3 millions for whom employment must be found. I am convinced that for 2 to 2½ millions of these workers, the only avenue open is self employment for which we will have to create a whole new tradition. And so the policy issue here is whether we should limit to the minimum necessary fresh investments in infrastructure like power and railways, capital good industries like electronics, intermediates like chemicals, and essentials like pharmaceuticals and divert resources to the labour intensive self-employment sector mentioned earlier.

A third issue is the form of—not how much—state control and direction of industries and freedom to the operators. Here the issues are to some extent foreclosed. The first two policy issues will involve more state control and direction. The directives to begin correcting spatial imbalances, so that the industrially backward and traditionally dry and drought prone districts and blocks begin to have their share of manufactures and agricultural regeneration will involve further state intervention. The nature of our capital market which, largely in terms of resources, is in the hands of the state does involve increasing state direction. In a democracy which has opted for a socialist society, the centres of industrial, financial and economic decision making will have to be in the hands of the people as represented by their Government. In the end, that is the rationale of the land ceilings, the coming urban ceilings and the various corporate, monetary and fiscal controls. The policy issue for the Fifth Plan is not state control, ownership and direction versus free private enterprise. That issue has been decided. What remains is vital, it is one of the forms of control and freedom of operation. From this point of view the Fifth Plan must see developed a managerial capacity in the state to equal its increasing management responsibility. The so called public sector is being strangulated from absence of managerial cadres. The increasing control procedures are not channelling development in the interest of the common man, it is a fertile field of non or wrong decision making by an over worked bureaucracy untrained for this task. Second the issue of simplifying industrial procedures, licensings, clearances along lines of the recommendations of the sub-committee of the State Industries Development Committee, Tamil Nadu on which some of you, distinguished members of the Chamber served, should be squarely faced during Fifth Plan. The alternative is that our nascent industries will simply die off. Third the areas of operation by the different groups, the Union Government, the State Government, the public sector, the joint sector and the cooperative sector should be clearly spelt out in specific terms and once done, each should operate in its own sphere. Fourth the industrialists on their side must learn to stand on their own. Looking at our industrial scene, I find there is on the part of our industrialists too much reliance on Government—Government aid, subsidies, rebates, concessions which you cannot have without directives, controls and the piper calling the tune—and too much reliance on foreign collaboration and imported technology (we have been concluding at the rate of 5 foreign collaboration agreements per week) and continued and continuing reliance on the foreign

collaborator for the know-how. I know the difficulties involved—no firm likes R & D to develop in a local foreign branch—but for us in the Fifth Plan, there is no escape from what the Japanese industrialists call "pinching technology" for which there is a very simple test—Do you spend four to five times of the cost of the foreign technology you have bought to adapt and make Indian, Tamilian, the imported know-how? And finally in this issue, the form of control, the Fifth Plan offers a real chance for the Union Government to decentralize to the maximum the controls and procedures. In no other country is there an attempt to direct and control the economic scene from a far away so called Central point. The State, the Tamil Nadu Government, knows the issues, lives with them and can be made the executor for all India policies. Such decentralized management is modernised management.

There are other policy issues that the Fifth Plan perspective raises—with regard to our ground water resources which is what we are left with, how much of that programme should meet immediate needs and how much based on a scientific hydrological mapping, the policy on fertilisers, nitrogen versus phosphatic, and their balance, the policy on minor irrigation which has a 4 to 4.5 : 1 capital output ratio vis-a-vis dry farming with its 1 : 1 ratio, the extent to which we should concentrate our resources on first generation problems in dry farming areas and second generation problems in irrigated areas, the choice between having more of the same or a complete restructuration of our education and training system, the various alternative forms of mobilising an addition of some Rs. 2,000 crores envisaged for the State sector—Government and private—of the Fifth Plan, the methods of raising our present current rate of savings from around 10 to around 17 per cent of the State product, and a more rational and justifiable distribution of the Country's and people's resources between the State and the Union Governments—these are some of the choices that we must make.

I know that all of you are busy men and women who just manage to keep your noses above the swirling waters of our economy. But because of your experience and your stakes in it, I invite you to consider the major policy perspectives of the Fifth Plan and help your State and your Country in making the right choices—the choices which have one aim—that of lifting the levels of living of the poor majority of our State and Country. That is our Fifth Plan perspective—let us live upto that perspective.

BOOK REVIEW

The Poona Consumer, By Prof. S. B. Rao, Vaikunth Mehta National Institute of Co-operative Management, Poona.

The study is an attempt to trace the profile of the consumer in Poona—is it a he or she, the distance he/she travels to shop, what he/she is looking for when shopping, price consciousness and the relation (or lack of relation) of this profile to the religion, language, income level, transportation facility of the consumer. The consumers so sampled come out with a profile which is rather strongly masculine, disliking long distance travel (except for clothes among the high income groups) and markedly pedestrian, heavily quality rather than price conscious, and not subject to any stereotyped classification by religion, language or even income level. The study bears out the economists' basic assumption in his analysis and theorising about the laws of supply and demand, value, price and the market as being the results of the activity of "the economic man". The study characterises him as the "universal consumer", universal in presenting a single, similar profile, not greatly influenced by the usual socio-economic factors of religion, language, profession, income *et al.* The study also concludes that this universal consumer wants a co-operative store and has faith in it, that he is still cooperative minded.

The study sets out at the outset its limitations. It has not dealt with one important consumer classification—that between vegetarianism and non-vegetarianism which for the class dealt with is not an economic necessity but a matter of social tradition. It is not based on a random or representative sample. It is a middle class study: That is sixty per cent of consumers in Poona and our Country are not covered by it. As a study of the middle class Poona consumer, it is both revealing and useful. It is revealing because for this class within certain price ranges, the quality of the product is the determinant and this together with need to dispel the ignorance about such quality instruments as pre-packing is an important signal to the distributive trades that cater to the middle class. It is useful in that the need for multiple trade outlets near the catchment area for this class of consumers has been clearly proved and should guide our city and town planning blue prints. The place of price and credit facilities in the consumer's hierarchy of values would be quite foundly different in the case of the poor majority—the sixty per cent who are able to spend only Rs. 80 to Rs. 150 per family per month and who are not the object of this study. With regard to the Fifth Plan programme to develop a mass distribution network of wage goods—wheat, rice, sugar, edible oils, standard cloth, house building materials for those living in the poverty sector, a further study on a more representative and sophisticated basis needs to be undertaken. Representative because there is as wide a range in the poverty group as in the middle class group. Sophisticated because

the price mechanism as at present operated does not and will not touch them. They do not have the purchasing power to react one way or another to the current price escalation or hopeful future deceleration. They are outside the price pale. Their condition is to starve a little more or starve a little less, to be a little more or a little less mal-nutritioned or undernourished. It is not possible to require of this study to throw light on the policy and action needed to meet the basic consumption needs of this group. The only negative comment on this study is with regard to its conclusion that the middle class consumer is co-operatives-oriented. This may be so, I believe it would be so, if the co-operatives can improve their image, their technical service and their educational impact. But on the basis of the statistical data presented in this study, the conclusion in favour of co-operative stores is not proved.

The study is a valuable contribution to the make-up of the middle class consumer. Its finding about the role of transports—personal or communal—is an important one. It has a wealth of useful indications for developing both middle class and co-operative retailing based on the demands and expressed desires and reactions of the middle class city consumer. Once more the Vaikunth Mehta National Institute of Co-operative Management has through this study placed both those dealing with consumers affairs and those engaged in micro-sectional studies in its debt. (*A.J.*)

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